The Effect of Repetitive and Small Sided Games Method to Improve Speed Quality of Soccer Player U17

(Comparative study between small sided games method and repetitive method)

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Abstract:

Objective: The research aims to compare two training programs to improve speed, the first using the small sided games method, and the second using the repetitive training method during the competition stage for the U17 football cubs category.

Methodology: The research sample included 30 players from the U17 amateur team, who were divided into two groups, each of which included 15 players. The 30-meter test was used to measure translational speed and the 5x10-meter shuttle running test was used to measure the player's coordination speed.

Results: The results showed that the program used in small sided games has a positive effect in improving the various elements of speed, translational speed, and coordination.

Conclusion: The method of small sided games contributes more to the development of speed if it is good to determine the appropriate training loads, by controlling the conditions for the success

of this method in terms of form, playing space, encouragement of the coach, and the number of touches of the ball.

Keywords: iterative method, mini-games method, adjective speed, U17 soccer cubs.

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Introduction:

Football is a multifactorial activity in the sense that the player is linked to the interaction of his technical, physical and tactical abilities. Modern football is described as a periodic activity, which can be defined as a succession of periods of effort and active or passive recovery (dellal et al, 2008).

It is a sport characterized by 1200 unpredictable, irregular movements in activity (every 3 to 5 seconds), including 30 to 40 short distance runs, over 700 spins, and 30 to 40 jumps (Rampinini et al, 2007).

In soccer, players do intermittent work. Although players perform low-intensity activities for more than 70% of the game, heart rate and body temperature measurements indicate that the average oxygen uptake of elite soccer players is about 70% of its maximum. (VO2max),This can be partly explained by the 150–250 brief high-intensity movements performed by a top-tier player during the game, which also indicates that the rates of creatine phosphate (CP) utilization and glycolysis are much higher during the game.

In addition, the game requires other movements with high intensity such as slowing down, kicking the ball, dribbling and tackling, All these efforts increase the physical stress placed on the players and contribute to making football very difficult physiologically (impellezzeri et al , 2008).

Football is basically a duet sport and the mediator in this communication is the ball, and the players' movements are regulated from their position on the field. The basic technical elements, dribbling, ball control, passing (direct and indirect play) are expressions of this no-verbal communication. (Delextrat et al, 2014)

The distance traveled in the three championships studied is between 10000 to 12000 meters per match without a significant difference depending on the playing centers, and this confirms the idea that football is an intermittent activity controlled by the aerobic system using aerobic capacity, aerobic capacity and acid anaerobic capacity (speed from 21 to 24 km / h) (Hill hass et al, 2011).

The ability to repeat speeds above 24 km / h (the special endurance of football players) depends on the player's aerobic qualities.

The basic technical elements (doubles, shooting, anchors, tackles) and the basic physical elements (vitality, speed, acceleration) are based on the qualities of high power, and therefore strength and speed.

Technological and scientific developments show that the physical preparation of a football player should be directed towards the simultaneous and coherent development of aerobic qualities, strength, speed and explosiveness. (Krestrup et al,2011)

Soccer, a combination of technique and speed Currently, a top level soccer player is able to match his qualities of speed with his technical qualities to avoid situations where he confuses speed with disorder. Conditional speed of thinking, reaction and response often requires high interaction with very short action times in game events.

Pace raises the intensity of the game allowing for the difference in decisive moves, of course ball control remains the key to achieving decisive and unpredictable acceleration to interrupt the rhythm and imbalance of the opponent (Hill hass et al, 2009).

The highest intensity of sprinting speed is supported by the acidic anaerobic manifold. However, when the succession of velocities is repeated or continued we tend towards velocity tolerance where the bronchial tubes are alternately involved to allow the ideal engagement of the acidic and acidic anaerobic bronchi (dellal et al, 2011).

Taking into account the mental speed or the speed of thinking, the response of a high-level footballer is the origin of other speeds such as: starting speed, movement speed, substitution speed, tackling speed, anticipation speed, movement speed, and serving speed.

The future of football continues to evolve based on team play that connects the technical aspect, speed and accelerations.

Physical preparation is an essential component of modern football, whether integrated, interdependent or non-coherent (clemente et al, 2014) .

In this context, small sided games are of great benefit to soccer players. Players have several advantages in small sided games (more movements and exercises), much more than if they were playing in large spaces, as they are more involved in defense and attack and therefore exposed to all kinds of situations in Football, during these games the average heart rate is at least 85% of the maximum heart rate, (Rampinini et al, 2007) found that the 3vs 3 small sided games allowed to reach 91% of the maximum heart rate at a pH of 6.5 mmol.

small sided games also have advantages from a technical and physical point of view, related to:

- Motivation of players which is high (very high).

- The nature of the mini-games themselves and their tendency to produce real situations that are performed in the interview.

Possibility of developing tactical aspects (pressure and control).

- Stimulating the sharing of metabolic needs that are very close to those of the competition.

Based on these data and based on several researches such as the study (A. Dellal, 2008), which studied the development of physical attributes using the method of small sided games, as well as the study (M. Tchokonte, 2011), which aimed to confirm the importance of the method of play on improving physical attributes and technical abilities in football. In football, our study came in order to find out the effect of each of the small sided games methods and the iterative method on the speed characteristic through the distinctive factors "transitional speed and coordination speed" during the competitive stage.

Research aims:

The research aims to put a comparison between two training programs to improve the speed characteristic (transitional speed, coordination speed), the first using the small sided games method, and the second is the repetitive training method, during the competitive phase of the U17 soccer cubs category.

Research Methodology:

Research sample: Our research sample included 30 players from the amateur soccer team, class U17, as it was divided into two groups, experimental and control, each group consisted of 15 players, and the following table shows the morphological characteristics of the research sample.

Table n◦ 01 : shows the morphological characteristics of study sample.

The Sample	numbre	Weight (kg)	length(cm)	Age (years)
Small sided games	15	63.15	169.13	16
Repetitive method	15	62.56	168.75	16

Experimental protocol:

Experimental study: The players were put through field tests, which consisted of:

30 meter test: This test aims to measure the player's transitional speed.

Tools used: clock, funnels, whistle, decameter.

How to perform the test: When the player hears the starting whistle, he runs alone for a specified distance using cones and a pole formed by a corridor 10 meters long, a preparation distance + 30 metres, where the player tries to cover a distance of 30 meters in the shortest possible time after gaining an initial speed during the first 10 metres.

The coach starts the timer when the game goes 10 meters preparatory, and stops it when the player goes 30 meters.

Speed Repeat Test (5x10m) "Coordination Speed Test":

Test objective: This test aims to measure the speed coordination of the player.

Instruments used: clock, cones, whistle, decameter.

How to perform the test: The player alone, upon hearing the launch whistle, runs back and forth quickly for a specified distance with cones and poles forming a 5-meter hallway, where the player tries to pass the test in a period of time and with a good wish.

View and analyze test results:

We conducted the pre-test for the two study samples and obtained the following results:

Table n : 02 shows pre and post-test results of study samples.

The samples		Speed Repeat Test (5x10m)		30 meter test	
		Pre test	**Post test**	**Pre test**	**Post test**
Small sided games	X	16.48	15.21	5.15	4.60
	S	1.05	1.28	0.85	0.71
Repetitive method	X	16.66	15.89	5.41	5.02
		1.12	1.05	0.91	0.87

	S				

X: Mean, S : Standard Deviation

Through the table, we notice that the results of the post-tests are better than the results of the pre-tests, but we note that the improvement of the results of the small sided games method sample was better in terms of the studied indicators, as it obtained an arithmetic mean of 4.60 in the results of the transitional speed in the 30-meter test, compared to 5.02 for the repetitive training sample and an arithmetic mean. 15.21 in the (5x10m) test for coordination speed against 15.89 for the repetitive training sample, and thus the improvement in favor of the small sided games method sample in the studied indicators, and depending on the "T" test to study the relationship between the groups, we get the results shown in the following table:

Table n :(03) shows post-test comparison results of study samples

The indicarors	The samples	Post test of samples study		Significance level	The table value of "T"	value of "T" calculated	Degree of freedom	Statistical significance
		X	S					
speed	Small sided games	4.60	0.71	0.05	1.85	3.18	28	*significant*
	Repetitive method	5.02	0.87					
Repeat speeds	Small sided games	15.21	1.28					

	Repetitive method	15.89	1.05	0.05	1.71	2.85	28	*significant*

X: Mean, S : Standard Deviation

Through this table, we notice that in the transitional speed index, the sample of the small sided games method in the post-test obtained an arithmetic mean of 4.60 (±0.71), while the repetitive training sample obtained an arithmetic mean of (5.02 and ±) 0.87, and the calculated t-statistic value was 3.18, and compared with The "tabular" t-value estimated at 1.85 at the degree of freedom 28 and the level of significance 0.05, we find that the significance of the post-test for the two samples is significant, which indicates the existence of an apparent significant difference in favor of the small sided games method sample in this indicator.

With regard to coordination speed, the post-test small sided games sample obtained an arithmetic mean of 15.21 (±1.28), while the repetitive training sample obtained an arithmetic mean of 15.89 (±1.05). The degree of freedom is 28 and the level of significance is 0.05. We find that the significance of the post-test for the two samples is significant, which indicates the existence of a significant difference in favor of the small sided games method sample in this indicator.

Discuss the results: Through the results of the comparisons of the two samples in the tests used, we find that the improvement is clear for the factors determining the quality of persistence for both samples, but the better improvement was in favor of the small sided games sample, and this improvement is due to the extent of the impact of the small sided games method on the sample, and this is what various studies show, especially those in the case of pre-intervention effects and thereafter (6-12 weeks), where several studies have found that mini-games lead to significant improvements in aerobic responses measured by maximal oxygen consumption (7-8% better), lactate-threshold oxygen volume (8-13% better) and In the 30-15IFT test by 3-6%.

In the case of speed, these studies showed that small sided games lead to significant improvements in distance 5m (2-3% faster), 10m (1-4% faster), 20m (2-4% faster), and agility (1-2% faster). (Lacono et al, 2015)

In the case of strength, the effects of small sided games were positive in the CMJ test (3-10% better), peak strength (4-5% better), total work capacity (4-5% better), chest development (6-12% better).), upper body strength (1-7% better), and lower body strength (1-4% better). (Delextrat and Martinez, 2014)

It can be seen that multiple fitness variables (aerobic, anaerobic, speed, and strength) are improved based on mini-games and traditional training programs. However, small sided games appear to benefit from more variables of skill compared to traditional forms of training (Radziminski et al, 2013).

Also, this improvement is due to the specificity of the program, and this is indicated by (C. Doucet, 2005) that the golden rule for any preparation or preparation program is specificity, which means that the movements performed by the program are as close as possible to the movements that it will encounter during competitions.

For this reason, sports training plans benefit from applying small sided games programs rather than applying traditional training methods. Moreover, the psychological effects of small sided games programs compared to running methods include the perception of lower effort and greater motivation, enjoyment and commitment, increased social bonding and psychological benefits along with speed. Adaptation, for this reason small sided games make a strong contribution to the development of physical fitness variables (Krestup et al, 2010).

The small sided games method was compared with other traditional methods, as a study comparing speed training by changing directions and small sided games programs revealed that mini-games improve agility performance by enhancing the speed of decision-making rather than the speed of movement. And that change of direction training was not effective for developing reactive agility (Young et al, 2014).

In another context in rugby, small sided games programs led to statistical differences in 10, 20 and 40-meter speed as well as in muscular strength and maximal aerobic capacity, while traditional training programs improved 10-meter speed and maximal aerobic capacity only.

Based on these various studies, it can be said that small sided games have effects on adaptation variables. In addition to the aerobic benefits resulting from small sided games, speed, agility, and strength improve based on a specific type of movement produced during small sided games, such as acceleration, deceleration, jumps, and changing directions (Clemente et al. , 2014)

Observations and research also confirm that, starting from the small sided games, players face different situations of the match and must adapt their techniques (they touch the ball a lot, concentration is high, because the ball is never far away). By repeating these positions, the player will gain experience, will know how to distinguish the stimuli that carry them. Important information, this is what allows him to make a decision more quickly (F.Bodineau, 2007), Although the effects of small sided games on acute physiological responses have been described, one of the main contributions of these games is that they can be used during competition to develop players' fitness.

For this reason, the specificity of training with activity may contribute to a general improvement of conditioning variables that support performance in competition.

In summary, the smaller forms (1v1, 2v2), which are the most used in our study, can enhance values by about 90% of the maximum heart rate and blood lactate concentration by about 8 mmol/L. These forms are more suitable for developing the calf system and anaerobic training and also for increasing the intensity of running. , speeds, and the ability to jump and various high-intensity movements. (Klusemann et al, 2012).

Therefore, it can be said that the results of our study are in line with the results of these various studies, on the effects of small sided games on the development of various physical attributes, especially the attribute of speed, which is consistent with the results of the study (Dellal, 2008), whose study showed the possibility of developing physical attributes based on small sided games.

As a result of these various studies, and for the success of small sided games, experts suggested several conditions that must be taken into consideration in order to achieve the desired goals and develop the selected physical qualities:

Adapting the players to the specific objectives (influencing the technical-tactical aspects). For the sake of physiological efficiency it is recommended to be limited to 6 cases as opposed to a maximum of 6.

Adapting the size of the field to the number of players used, and the presence of goalkeepers is a motivating factor behind the increase in cardiovascular activity (Dellal et coll, 2008).

Suggest short sets that allow more cardiovascular stress and stimulation (not necessarily the other way around).

Repeat these short, intense periods over an effective period of 7 to 30 minutes.

Focus on passive recall for maximum quality during game sets. By nature, small sided games requires a lot of effort at the heart and muscle level (individual struggles/change of direction/repetition of speeds, etc....)

Suggest sufficient recovery time between work sets, depending on the proximity of the match and the need for physical recovery (muscular aspect).

Having a quickly available source of the ball: to avoid all pauses during the actual playing phases (low heart rate).

Developing active training based on feedback (encouragement...), which forces players to be as close as possible to the maximum possible level. (Chiha, 2019).

General Conclusion:

small sided games are a miniaturized and adapted form of interviewing that is often used in the context of team sports training as part of their regular programmes. These small sided games have gained great popularity in the last decade and are mostly used to enhance time gain in the training process and physiological and physical capabilities following the main principle of the training methodology that It is privacy.

small sided games sets are usually smaller versions of the game that adjust the number of players (format) and the size of the field. These adjustments allow for increased players' individual involvement in the game and also increase acute physiological responses. However, coaches often change some of the rules of play and even the structure of the game during training sessions.

These important modifications use some mission conditions to increase players' awareness of specific topics, mostly tactical objectives based on which these games are no longer just a smaller version of the game but a new version or a special training method drawn from the specificity of the activity.

The effects of small sided games on the various elements of the exercise load, especially the training intensity received by the players, has been confirmed in several studies in recent years by describing the physiological, physical, technical and tactical responses to this modern training method, which explains its contribution to the development of training in team sports, although there is no consensus. On the long-term physiological and physical effects of these games compared to traditional training programmes, Making doubt in the context of training still exists, and for this reason, the comparison of different responses of small sided games with other training methods was three-dimensional by comparing the physiological and physical adaptations to small sided games and high-intensity interval training programs, comparing the physiological and physical adaptations of isolated traditional training methods with mini games programmes, To identify the main physiological and physical adaptations to the small sided games training programmes, the results of these comparisons contributed to reducing the doubts about the long-term benefits of the small sided games training programs and the better improvement in the adaptations of the team sports players.

In short, based on these different studies, it can be said that small sided games have multiple effects on adaptive variables, Thus, in addition to the aerobic benefits resulting from the mini-games, speed, agility, and strength are improved based on the specific type of movements produced during the small sided games (such as acceleration, deceleration, jumps, and change of direction). The application of high-intensity interval training methods, where the specificity of training with activity contributes to a general improvement of conditioning variables that support performance in competition.

For this reason, small sided games make a powerful contribution to the periodicity of training and the development of fitness variables.

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