



The Effect of Circuit Training on Improvement in Futsal Athletes: Literature Review

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ABSTRACT

Futsal is a high-intensity, intermittent sport from the beginning to the end of the match. Futsal players must have anthropometric and somatotype characteristics that match the needs of high-intensity intermittent training, as well as good physical condition on the dominant physical aspect, so that players' performance during competition and physiological losses after competition can be minimized to the greatest extent possible. Aspects of physical condition as an opportunity for coaches to control player performance through training models. This research is a literature review study that aims to reveal the presence or absence of the influence of circuit training on the improvement of futsal athletes. Using the Google Scholar database, enter the keyword "The Effect of Circuit Training Exercise on the Improvement of Futsal Athletes" to collect various references and references that are relevant to the topic of the problem being studied. From the results of the search for sources in the database, 15 articles were found published in 2014–2021. The conclusion of this study shows that "There is an effect of circuit training on the improvement of futsal athletes," so that it can be used as a study and input. Coaches and athletes can use circuit training exercises as one of them.

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INTRODUCTION

Sport is a planned and structured physical activity that involves repetitive body movements and is intended to improve physical fitness (Fedburner, 2012). Sport can not



be separated from human life, in exercising each individual has a different goal, some are aimed at achievement, physical fitness, or just for recreation. In the world of sports, there are many sports, namely futsal. Futsal is a sport played by two teams that are still based on the ball. Futsal game is a team sport game where cooperation between players is needed without good cooperation, the futsal game will not be good, so from every player who has good basic techniques, excellent physicality is also needed to achieve an achievement, one of which is the physical component of agility. Athletes in order to have agility, need structured training. Agility can be used using the Circuit Training method, this is a combination of 2 training methods combined with 1 training method in which there are several posts to train physical conditions that are run simultaneously. The Tabata Circuit Training used in this study uses 8 posts. Where each post consists of exercises centered on agility. In an effort to improve achievement in the futsal sport, several physical conditions are needed. According to Lhaksana (2011), "there are five dominant components in physical exercise for futsal, namely endurance, speed, strength, coordination and agility".

Circuit training is an exercise system that can simultaneously improve the overall fitness of the body, namely the elements of power, endurance, strength, agility, speed, and other components of physical condition (Kardjono, 2008). The circuit raining method is a solution to increase a person's oxygen volume. The selection of the type of training load in the circuit training must be adjusted to the general aspects of the circuit training that you want to achieve. Circuit training is carried out in an area that has been determined by several posts, for example 8 posts. Here, each post focuses on the form of agility training in accordance with the research that will be carried out by the author, namely to improve agility. Circuit training is used to increase agility in athletes because circuit training is of high intensity. This is based on work stamina at a high intensity anaerobic level, so that the supply or intake of oxygen is not sufficient to provide the needs of the work carried out by the muscles, due to insufficient oxygen supply, anaerobic work will always result in athletes lacking.

MATERIALS AND METHODS

The type of research that will be conducted is the type of experimental research. According to Arikunto (2013), "experimentation is a way to find a causal relationship between 2 factors that are intentionally caused by researchers by eliminating or reducing or setting aside other disturbing factors" so experimental research is usually used to determine whether there is an influence from Variables used as research In this study, the study used a quasi-experiment with the aim of explaining the relationship and analyzing the causes of an event that occurred before and after the treatment was given.

RESULTS AND DISCUSSION

This study discusses efforts to improve one of the components of physical condition using a circuit training training model with an experimental method.

Characteristics of futsal is a sport that is identical to having a fast movement between attack and defense, with a field area that is not as big as a football field, it takes speed endurance, strength endurance, agility endurance and heart and lung endurance data capabilities. According to Lhaksana (2012), Futsal in Spanish is "futbol sala" which means indoor football. According to Amiq (2014), futsal is an indoor mini football that requires players to make dynamic and fast movements, with the aim of pressing the opponent's area and making as many goals as possible. Futsal players are required to have excellent physical condition, because excellent physical condition really supports the appearance of a player. If the physical condition of the futsal player is bad, of course it will also have a bad impact on his technique and tactics. Zusyah & Hidayat, 2015, The influence of motion is a concept associated with the influence of motion experience on the perpetrator. The influence of agility and the type of exercise that produces endurance, strength, and flexibility are concepts of motion influence. The process involved in teaching motion principles is something that starts with defining concepts and helping students understand these principles followed by helping students generalize these principles to all possible situations. The results of the discussion above are in accordance with the results of relevant research related to circuit training exercises to increase agility in futsal athletes

Planning a physical condition training program must be well planned, this is systematically to increase the endurance and functional ability of the body system so that it can cause players to achieve better performance as expected. One form of physical condition that is very dominant by a player is endurance, both heart and muscle endurance. Endurance can be interpreted as the time to survive, namely the length of time a person does an intensity of work

or far from fatigue According to Suharjana (2004) circuit training is a form of exercise consisting of several training posts that are carried out sequentially from one post to the last post. The number of posts is between 8-16 posts with rest done at intervals between one post and another. The form of exercise is usually arranged in a circle and consists of several posts. With a little ingenuity and creativity the coach will be able to design a circuit that is most suitable for his sport. "Circuit training" means several sports groups or posts that are in the area and must be completed quickly. Each participant must complete one post before moving on to another. Circuit training is an exercise program created by R.E. Morgan and G.T.

Anderson in 1953, in this exercise program, there are several physical fitness stations, such as push ups, sit ups, and others.

Table 1. It is the title of the table

No	Source	Research Method	Intervention	Fundings
1.	Jurnal ilmu social dan pendidikan, Andi Anshar Bausad, Arif Yanuan Musrifin	Experimental	Circuit training, vo2 max futsal	Circuit training exercise to increase vo2 max of UNDIKMA male futsal athletes
2.	Jurnal pendidikan olahraga Sendy Cahya Dwi Putra, Surya Adi	Experimental	Atlit futsal, endurance, circuit training.	The Effect of Circuit Training and Running 2.4 km on Endurance Improvement in Futsal Athletes

	Saputra, Andi T.B. D. Alsaudi			
3.	Jurnal online Ozi pebri Dwi Putra, Slamet Slamet, Adriah Juita	Experimental	Circuit Training, Endurance	The effect of circuit training on the endurance of PSSP Kuansing futsal players
4.	Jurnal kesehatan, Dea Linia Romadhoni(1*), Isnaini Herawati(2), Arif Pristiano(3)	Quasi-experiment	VO2max; Circuit Training; Bleep test	The effect of giving circuit training to increase vo2max in futsal players at Maleo Futsal Magetan
5.	Jurnal prestasi olahraga SAKIR ROMDANI, DAVID AGUS PRIANTO	Experiment	Tabata Circuit Training, Agility.	Effect of tabata circuit training exercises on increasing agility in futsal players
6	Jurnal ILHAM MAHMUDI ISMAIL	Experiment	Circuit training, endurance	Circuit training exercise on the results of the endurance ability to run 12 minutes
7	Jurnal ilmiah, Dadang Warta Candra Wira Kusuma, Muhamad Salabi	Experiment	Circuit Training, agility	The Effect of Sand-Based Circuit Training on the Agility of Blink Fc Futsal Athletes in Sambelia District, East Lombok Regency in 2021
8	Jurnal ilmiah pendidikan jasmani, Hengki Saputra, Ari Sutisyana	Pretes / uji tes	Shuttle run, circuit training	Running Back and forth Using Leg Weights and Circuit Training on Dribbling Ability in Juddor Andalas FC Futsal Players
9	Jurnal Of Physical Education Syamsuramel Syamsuramel, Herri Yusfi	Experiment	Circuit training, vo2max	The effect of circuit training exercises on increasing vo2max endurance in mega futsal players in the early season.
11	Jurnal Fadmawati Mursain, SST Veni Fatmawati, M Fis	Experiment	Circuit Training, Interval Iraining	The effect of circuit training and interval training on increasing vo2 max in futsal players
12	Jurnal of Sport Coaching and Physical Education Zihni Ashfahani	Experiment	Endurance	The effect of circuit training on cardiovascular endurance in the PGRI University Semarang futsal team
13	Jurnal Karya ilmiah Rifka Irvandy Masdar, S Wahyuni	Experiment	upaya meningkatkan VO ₂ max perlu dilaksanakan latihan yang cermat, sistematis dan teratur	The effect of continuous running and circuit training on the increase in vo2max of futsal players
14	Jurnal Of Physical Education Syamsuramel Syamsuramel, Herri Yusfi	Experiment	meningkatan VO ₂ Max pemain Mega futsal Musi Rawas	The effect of circuit training exercises on increasing vo2max endurance in mega futsal players in the early season
15	Jurnal Prestasi Olahraga Sakir Romdani, David Agus Prianto	Experiment	Circuit training, Agility	The Effect of Tabata Circuit Training Exercises on Increasing Agility in Futsal Players

Based from (optional on the text)

It can be seen that there are several training methods in improving circuit training exercises by using from post one to the last post. The number of posts is between 8-16 posts with rest done at intervals between one post and another. The form of exercise is usually arranged in a circle and consists of several posts. With a little ingenuity and creativity, the coach will be able to design a circuit that is most suitable for futsal athletes

CONCLUSION

Based on the results of the study, it can be concluded that circuit training can improve the quality of the game and physical performance of futsal players and there are several factors from circuit training that affect the way of playing and agility of futsal athletes. In this study there were 15 journals that became references in making this literature review journal and the results were the same as the effect of circuit training exercises on futsal players or athletes was very influential for athletes or futsal players.

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