The Effect of Circuit Training On Increasing VO\textsubscript{2} Max
In Scorpio Jakarta Basketball Players

Rido Arman Syah\textsuperscript{1,}, Dany Aulia\textsuperscript{2}, M. Arief Setiawan\textsuperscript{3}, Habibi Hadi Wijaya\textsuperscript{4},
Qorry Armen Gemael\textsuperscript{5}

\textsuperscript{1,2,3,5}Sports Science / Fakultas Ilmu Kesehatan / Singaperbangsa University Karawang / West Java / Indonesia
\textsuperscript{1,2,3}Street. HS. Ronggo Waluyo, Puseurjaya, East Telukjambe, Karawang, West Java 41361
\textsuperscript{1}1910631240029@student.unsika.ac.id, \textsuperscript{2}dany.aulia@fikes.unsika.ac.id, \textsuperscript{3}muhammad.ariel@fikes.unsika.ac.id, \textsuperscript{4}habibi.hadi@fikes.unsika.ac.id, \textsuperscript{5}qorry.gemael@fikes.unsika.ac.id

\textbf{Received: October 20, 2023; Reviewed: October 24, 2023; Accepted: October 26, 2023; Published: October 29, 2023}

\textbf{ABSTRACT}
The basis for this research is the lack of endurance in Scorpio Jakarta KU-16 basketball players. This research aims to determine the influence of Circuit Training on increasing VO2MAX in Scorpio Jakarta basketball players. This research includes Pre-Experimental research. The population and sample in this study were Scorpio Jakarta basketball players aged 16 years and under, totalling 15 players. The test instrument in this research is the Bleep test. The data obtained were analyzed using the Normality Test (Shapiro Wilk), Homogeneity Test (Levene’s Statistics) and Hypothesis Test (T-Test). From the results of this research, the data was processed using the Shapiro-Wilk normality test using the SPSS application. The results of the pretest value show Sig= 0.469 > 0.05, so the pretest data is declared to be normally distributed and the sig value. at posttest = 0.183 > 0.05 then the posttest data is declared to be normally distributed. Then the homogeneity test, from the results of the research data, sig = 0.388 > 0.05 was obtained, so the data was declared to have a homogeneous distribution. Next, a hypothesis test was carried out. From the results of the research data from both pretest and posttest data samples, it was found that the Sig. (2-failed) value was 0.000 < 0.05. It could be concluded that the results of the Hypothesis Test were accepted. So it means that there is an influence of Circuit Training on increasing VO2MAX in Scorpio Jakarta basketball players.

\textbf{Keywords:} Circuit Training; VO\textsubscript{2}Max; Basketball.

\textbf{INTRODUCTION}
Games she was basket First time created by a person teacher from the University Springfield, Dr. James Naismith on moon December 1891 Of Springfield, Massachusetts. Naismith develops a game because in season No There is activity sport in the room. She was basket is a sport in Which she is sized big, plays with her hands, can be passed the Friend (Illahi, 2019), can also be reflected on the land (of place or while walking) and the
The Effect of Circuit Training On Increasing VO2 Max In Scorpio Jakarta Basketball Players
Rido Arman Syah1*, Dany Aulia2, M. Arief Setiawan3, Habibi Hadi Wijaya4, Qorry Armen Gemael5
1910631240029@student.unsika.ac.id.

goal is to print point as much as possible, the ball is thrown at the basket against (Ishak & Sahabuddin, 2018). She was basket is a sport Which played by hand people per tim, man and Woman. Also, Skilled individuals like shooting, passing, dribbling and rebounding (Sakti, 2019).

Which game is played by two Tim Which respectively consist of hands player? You from the game this is throwing she was the basket against and try looking for points or number as much (Taufik et al., 2020). This is following the definition of basketball according to the journal (P Rendra, 2017) in the quote Sucipto, Dian Budiana, Lukmanul Hakim Lubay and Jajat Darajat (2010) "Basketball is a team sport that is played by bouncing the ball and shooting the ball into opponent's basket. Each team consists of five people and tries to put the ball into the opponent's basket and prevent the opposing team from putting the ball into our basket (Dinata & Lismadiana, 2019). Meanwhile, according to the journal (P Rendra, 2017) Agus Margono (2010: 33) states "that basketball is played by two teams, each consisting of 5 players. Each team tries to put the ball into the opponent's basket and tries to prevent the opponent from putting the ball in or scoring points (Latuheru et al., 2022).

Body development exercises both mentally and physically are subjects that determine faster achievement (Sahabuddin, 2020). Therefore, the more regularly the players do the exercises, the better the skill level of playing basketball will be. The level of skill in a sport is what distinguishes one champion from another (Riyoko, 2019). As in basketball, the better a person can dribble, shoot and pass, the better the chances of becoming a successful player (Arwih, 2019).

According to (Apriliyana & Gemael, 2021), activities are activity extra Which are held outside jam, to add knowledge and outlook (Rosmi, 2017). Activity extracurriculars intended to develop talent, interest, skills and ability in the development of personal with knowing linkages between life and society (Putri et al., 2020).

Basketball is now one of the most popular sports in schools and universities in Indonesia (Alamsyah et al., 2022). There are also many basketball clubs for professionals and beginners. Basketball is getting more and more public attention and people's interest in studying and exploring the sport of basketball is increasing. Inter-club basketball competitions are held professionally, namely, IBL (Indonesian Basketball League) matches, in addition to inter-club competitions for universities such as LIMA (Student League), BOC (Battle Of Campus), IBFI (Indonesia Basketball Festival Indonesia) and for school level such as DBL (Developmental Basketball League).
The Effect of Circuit Training On Increasing VO₂ Max In Scorpio Jakarta Basketball Players
Rido Arman Syah1, Dany Aulia2, M. Arief Setiawan3, Habibi Hadi Wijaya4, Qorry Armen Gemael5
1910631240029@student.unsika.ac.id.

Training is a process of consciously improving or maturing athletes to achieve maximum quality performance by being given regular and directed physical and mental loads to increase and repeat over time. (Arifin, 2018). There is exercise Wrong only one is exercise technical because exercise technical is based on activity (Illahi, 2019) which is later done fine so that the goal is to reach dominance regularly. To reach the objective wanted in exercise, for need done planning exercise Which following need athlete beginners, (Febriyanto et al., 2022).

In games, she was basket shooting shared become two parts that are field and throwing free shots (Ramos et al., 2019) field is an effort to enter she was in the basket during the game and threw free given to the player by the referee for the print score in a position perfect of back two half-lines throw free field and free throw (Hardiyono, 2019).

Basketball is a sport played as a team, because basketball is played as a team, playing collectively of course requires an understanding of good basic techniques (Rismayadi, 2021). The basic basketball techniques include footwork or foot movements, shooting, passing and catching or passing and catching, dribbling, and rebounding or reclaiming the ball (Anggreni et al., 2022). In the game of basketball, there are several basic techniques that athletes must master, including shooting techniques (Dinata & Lismadiana, 2019). Shooting is the most important skill because to get points players must be able to shoot (Mulyo, 2019; Joypindonta 2021).

Basketball is a sport that requires aerobic endurance, VO₂ Max is one of the factors that contributes to an athlete's aerobic endurance. Optimal aerobic endurance can affect the game and the intensity of fatigue during the match (Dwi Kurniawan & Rosyida, 2019). To meet these endurance demands, an athlete must have large amounts of energy. The level of a person's VO₂ Max is influenced by genetics, age, gender and body composition. Gender, after puberty women of the same age as men generally have a lower maximum oxygen consumption than men (Permana, 2023). Meanwhile, according to Astrand (1986), physiological factors that influence heart-lung endurance include genetic factors, age, gender and training activities. The players have a big influence on the physical condition or physical fitness of the players (Sinurat, 2019).

To increase VO₂ Max, physical exercise must be done, increasing VO₂ Max should be done through an aerobic exercise program because with aerobic exercise there is already a load that increases the heart and lungs (Hutama & Yuliastrid, 2017). The high and low VO₂ Max of the players greatly influences the physical condition or physical
fitness of the players (Busyairi & Ray, 2018). Based on the results of research by Taylor K., (2013) stated that a circuit training program carried out for 6 weeks can increase cardiovascular endurance. Based on research (Budi, 2015) it is stated that a vo2max circuit training ratio of 1:1 is better than a vo2max circuit training ratio of 1:2 in athletes (Busyairi & Ray, 2018).

Scorpio Jakarta was formed on November 10 1974. The current number of coaches is 6 coaches and players totaling approximately 90 players. Players who are members of the Scorpio Jakarta basketball team are generally aged 14-16 years.

Based on observations by researchers, problems that often occur on the field when competing, players often lose concentration and make wrong decisions. Whether the decision is to pass or score points, this is because the player quickly becomes tired due to poor physical condition. Endurance is one of the main factors in playing basketball because players have to play 4 rounds/quarters, each round lasting 10 minutes.

Kent in Budiwanto (2012) says "Cardiovascular endurance is the ability of the heart and blood vessels to supply energy and oxygen to the muscles during exercise" (Wicaksana & Rachman, 2018). According to (Putri et al., 2020) Circuit training is an exercise program designed to increase endurance, strength, flexibility, agility and balance. Circuit training is also a form of exercise that trains all physical conditions in one series of bars (Mubarok & Ramadhan, 2019), where each bar performs a different exercise (Putra & Dinata, 2019). To increase endurance we recommend: high volume loads (several repetitions in each position), low intensity (low load) and short rest.

In determining the form of training, trainers must be creative and still refer to the objectives of the training being carried out. This is what prompted researchers to study or research the effect of circuit training on increasing VO2 Max in basketball athletes on the Scorpio Jakarta basketball team. This research aims to determine the effect of circuit training exercises on increasing the VO2 Max of basketball athletes on the Scorpio Jakarta basketball team in 2023.

The novelty of this research is that this research focuses on samples who are teenage players because when they are teenagers, physical conditioning training, especially in the endurance component, helps in the process of developing basic techniques, technical combination skills and mental development in competing. So the researchers chose to conduct research to increase endurance / VO2 Max in Scorpio Jakarta basketball players aged less than 16 years using systematic circuit training.
METHOD

This research was conducted at Gor Otista, East Jakarta. The researcher chose this research location because it is a training place that is often used by Scorpio Jakarta which is located at RT.13/RW.8, Bidara Cina, Jatinegara District, East Jakarta City, Special Capital Region of Jakarta 13330. The method in this research is the Pre-Experimental method with a one-group pretest and post-test research design because there is only 1 sample group, namely the experimental group. The author will give a pretest (O1) first using the Bleep Test as a test tool, after carrying out the pre-test the athlete will be given post-to-post-circuit training treatment for 15 meetings, after being given this treatment the athlete will be given a final test (O2). In this design, there is a pre-test, before treatment is given. In this way, the results of the treatment can be known more accurately, because they can be compared with the situation before the treatment was given. In this research, there are two variables, namely the independent variable or dependent variable, the independent variable (X) is Circuit Training, while the dependent variable or dependent variable (Y) in this research is VO\textsubscript{2} Max in Scorpio Jakarta basketball players. In this research, the sampling technique used was nonprobability sampling with the technique taken being saturated sampling (census). According to Sugiyono (2018), "Saturated sampling is a sample determination technique when all members of the population are used as samples." Therefore, the author selected samples using a sampling technique with saturated samples. The entire population in this study was sampled and given the same treatment. So the sample in this study was 15 basketball players who took part in the treatment. The population and sample in this study were 15 Scorpio Jakarta basketball players.

RESULTS AND DISCUSSION

In research at the Scorpio Jakarta Basketball Club, involving 15 players. The research was carried out during 16 meetings at the OTISTA Sports Center at the address RT.13/RW.8, Bidara Cina, Jatinegara District, East Jakarta City, Special Capital Region of Jakarta 13330 for 6 weeks. The pre-test or initial test will be taken on September 1 2023 and the post-test or final test will be on October 9 2023, while the practice process will be carried out from September 4 2023 to October 6 2023.

Based on research data, most players experience an increase in vo2max results because they have exercised using the circuit training method. It can be seen that most of
The Effect of Circuit Training On Increasing VO2 Max In Scorpio Jakarta Basketball Players
Rido Arman Syah1, Dany Aulia2, M. Arief Setiawan3, Habibi Hadi Wijaya4, Qorry Armen Gemael5
1910631240029@student.unsika.ac.id.

the players get very good results. These extraordinary results were obtained by practising 15 times.

**Table 1.**
Descriptive Statistics of Research Results

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before being given treatment</td>
<td>15</td>
<td>37.3</td>
<td>1.7760</td>
<td>3,154</td>
</tr>
<tr>
<td>After Given Treatment</td>
<td>15</td>
<td>44.6</td>
<td>1.9630</td>
<td>7,160</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on Table 1 above, it is known that the sample size is 15 athletes. The average post-test score was 37.3 and the pre-test was 44.6. then the pre-test standard deviation is 1.7760 and the final test standard deviation is 1.9630. then the variance for the initial test is 3.154 and for the final test it is 7.160

**Normality test**

The normality test is a test carried out to determine whether the distribution of data in a group of data or variables is normally or not normally distributed. The normality test used is using Lilifors, distribution normality testing with the Lilliefors test is generally used on single data. The normality test that researchers use is by using the SPSS Statistics Application Version 21. The basis for making decisions on the normality test is if the Sig. > 0.05, then the data is normally distributed, and if the Sig. < 0.05, then the data is not normally distributed.

**Table 2.**
Normality Test

<table>
<thead>
<tr>
<th></th>
<th>Kolmogorov-Smirnov a Statistics</th>
<th>df</th>
<th>Sig.</th>
<th>Shapiro-Wilk Statistics</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before being given treatment</td>
<td>.104</td>
<td>15</td>
<td>.200*</td>
<td>.946</td>
<td>15</td>
<td>.469</td>
</tr>
<tr>
<td>After Given Treatment</td>
<td>.163</td>
<td>15</td>
<td>.200*</td>
<td>.919</td>
<td>15</td>
<td>.183</td>
</tr>
</tbody>
</table>

Based on the table data above using the test Shapiro-Wilk normality, due to the amount The sample in this study was 15 athletes and less than 100 samples. So using the Shapiro normality test if 15 > 100 sampling from That, use Shapiro Wilk. In the table there is a sig value of 0.469 (pre-test) > 0.05, so the distribution in the pretest is normal and the sig value is 0.183 (post-test) > 0.05, so the post-test distribution is normal. Because the data is normally distributed, it will be continued with parametric statistical tests using Levene's Statistics homogeneity test and the Paired T-test.

**Homogeneity Test**

The homogeneity test is a test to determine whether or not the variants of two or more distributions are the same. The homogeneity test used in this research uses the SPSS
Statistics Version 21 application. The basis for making homogeneity test decisions is if the Sig. >0.05, then the data is homogeneous, and vice versa if the Sig. <0.05, then the data is not homogeneous.

<table>
<thead>
<tr>
<th>Table 3.</th>
<th>Homogeneity Testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levene Statistics</td>
<td>df1</td>
</tr>
<tr>
<td>Pre-test and post-test</td>
<td>.768</td>
</tr>
</tbody>
</table>

Based on the table data above, the Levene Statistics value is 0.768 with df1 = 1, and df2 = 28, and the result is Sig. 0.388. Therefore the Sig data. = 0.388 > 0.05, then the data is declared to be homogeneous. The data is homogeneous because there are no variables that influence the data results.

**Hypothesis testing**

After getting data from normality and test results homogeneity in the research, it can be continued to the next stage namely analysis for test hypothesis using SPSS Statistics Version 21 application help with Test Paired Samples T Test. In this study, researchers use two hypotheses namely H1 and H0. H1 states that "There is an Influence Circuit Training on increasing VO2 Max in Scorpio Jakarta basketball players ", while H0 states that "There is no effect Circuit Training on VO2 Max in Scorpio Jakarta basketball players ". The basis for deciding on the test paired Samples T-test is the Sig value. (2-tailed) < 0.05, then H0 is rejected and H1 is accepted, and vice versa if the Sig. (2-tailed) > 0.05, then H0 is accepted and H1 is rejected.

<table>
<thead>
<tr>
<th>Table 4.</th>
<th>Testing the first output interpretation hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>N</td>
</tr>
<tr>
<td>Pair 1</td>
<td>Before being given treatment</td>
</tr>
<tr>
<td>After Given Treatment</td>
<td>44.607</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 5.</th>
<th>Testing the second output interpretation hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Correlation</td>
</tr>
<tr>
<td>Pair 1</td>
<td>Before Given Treatment &amp; After Given Treatment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 6.</th>
<th>Testing The Third Output Interpretation Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
</tbody>
</table>
Table 4 shows the summary results of descriptive statistics for the two samples of pretest and posttest data. The part in Table 5 of the second output is the result of the correlation or relationship between two data or variables, namely Pretest and Posttest. In Table 6, the third output shows the Sig value. (2-tailed) of 0.000<0.05. Based on the test criteria that have been formulated, it can be concluded that Ho is rejected and H1 is accepted, in other words, there is a real influence between the influence of circuit training on increasing the Vo2mak of Scorpio Jakarta basketball players.

Discussion

In the research process before taking data in the field, the researcher first makes observations regarding the problems in the field, study. This takes a sample player basketball son Scorpio Jakarta. After making direct observations, we found problems related to durability.

After making observations, on September 4 2023 a pretest was carried out in the field of GOR Otista. On date 6 September 2023 until 6 October 2023 researcher did treatment. The treatment carried out is training using the circuit training method by holding 15 meetings and continuing with Take the final test/post-test data on October 8 2023.

On September 6 2023, when the athlete first started doing the circuit training method, the player felt tired quickly on the first day, because the player was not used to doing activities that were heavy or very draining. In the second to fifth meetings, players still felt tired quickly when doing circuit training. Because each player's lifestyle, eating and activity patterns are different. At the meeting, six to ten athletes had begun to improve the training process using the circuit training method, because each player had done the training repeatedly, the players had become accustomed to handling the level of fatigue from circuit training. In meetings eleven to sixteen, athletes have seen an increase in VO2 Max and become less tired due to circuit training in the previous week.

In this research, there is a training program which is divided into 2 circuit training parts, in each part there are posts that experience improvement or additions at each meeting. In the first part of general training, this exercise has 6 posts to do, then in the next part, there is special training, namely circuit training which has 8 posts in each meeting and experiences an increase in intensity and volume, where the training movements must be completed in each session. meetings and have high intensity and volume.

The advantages of training with the circuit training model include: Training heart strength and lowering blood pressure as well as aerobic exercise, improving various
components of physical condition simultaneously in a relatively short time, endurance, muscle endurance will be trained and adaptation ability increase, every athlete can train according to their progress, each athlete can observe and assess their progress, does not require expensive gym equipment, can be adapted to various areas or training places and training is easy to monitor.

Circuit training is very suitable for developing strength endurance or local muscle endurance, but it is less suitable for building muscle mass. Circuit training will provide less results in terms of maximal strength than directly providing weight training. Another weakness is that the training load cannot be adjusted optimally according to the load for the specific training.

Previous research regarding increasing VO$_2$ Max has had various results, in the study entitled "The Effect of Circuit Training on Increasing VO$_2$ Max in MAN 1 Badminton Extracurricular Participants, Magelang City" (Adi, 2015) has this research aims to determine the effect of circuit training on increasing Vo2max in MAN 1 badminton extracurricular enthusiasts Magelang. Comparisons contained in research that are relevant to the research conducted by the author are:

Table 7. Relevant Research Results

<table>
<thead>
<tr>
<th>NO</th>
<th>Difference</th>
<th>Relevant Research</th>
<th>Research result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Research Design</td>
<td>“one group pre-test post-test design”</td>
<td>“one group pre-test post-test design”</td>
</tr>
<tr>
<td>2</td>
<td>Sample</td>
<td>20 Samples</td>
<td>15 Samples</td>
</tr>
<tr>
<td>3</td>
<td>Research sites</td>
<td>Badminton court for the Payaman sub-district hall, Magelang Regency, which is located opposite MAN 1 Magelang City. Payaman Village Hall is located in Payaman Highway No.1, Magelang Regency.</td>
<td>Gor Otista, East Jakarta. Researchers chose this research location because it is a frequently used training ground by Scorpio Jakarta which is located at RT.13/RW.8, Bidara China, Jatinegara District, East Jakarta City, Region Special Capital city Jakarta 13330.</td>
</tr>
<tr>
<td>4</td>
<td>Research focus</td>
<td>Focus on increasing vo2max using training methods Circuit.</td>
<td>Focus on increasing vo2max using training methods circuit</td>
</tr>
<tr>
<td>5</td>
<td>Treatment</td>
<td>1 week 3x meetings Days: Tuesday, Thursday and Saturday</td>
<td>1 week 3x meetings Days: Monday, Wednesday and Friday</td>
</tr>
<tr>
<td>6</td>
<td>Mean</td>
<td>Pre-test = 27.02 Post test = 31.86 Increase = 4.84</td>
<td>Pre-test = 37.3 Post test = 44.6 Increase = 7.3 / 20%</td>
</tr>
</tbody>
</table>

Based on the comparison table data above, there are differences in the type of research where the relevant research uses a research design using a "one group pre-test
The Effect of Circuit Training On Increasing VO$_2$ Max In Scorpio Jakarta Basketball Players

Rido Arman Syah¹, Dany Aulia², M. Arief Setiawan³, Habibi Hadi Wijaya³, Qorry Armen Gemael ³
1910631240029@student.unsika.ac.id,

post-test design. In the relevant research, the sample from the researcher was 20 samples. The location is at the badminton court at the Payaman sub-district hall, Magelang Regency, which is located opposite MAN 1 Magelang City. Previous researchers focused on increasing vo2max using circuit training methods. Treatment 1 week 3x meetings every Tuesday, Thursday and Saturday. The mean in relevant research has Pre-test results = 27.02, Post-test = 31.86 and Increased results = 4.84. Based on the test results (paired sample t-test), the T-calculated value = 6.04 > T-table = 2.093 so it can show that this training method has a significant influence on increasing the vo2max of MAN 1 Magelang badminton extracurricular participants.

Meanwhile, in the research results with the "one group pre-test post-test design", the number of samples was 15 samples, besides that the research location was at Gor Otista, East Jakarta. Researchers focused their research on increasing Vo2max using circuit training methods. Treatment 1 week 3x meetings every Monday, Wednesday and Friday. The mean in the researchers had Pre-test results = 37.3, Post-test = 44.6 and Increased results = 7.3. Based on the test results (paired sample t-test), the T-count value = -15,799 > T-table = 2,144 so it can be concluded that there is a significant influence of circuit training on increasing the vo2max of Scorpio Jakarta basketball players.

The second literature discusses "The Effect of Circuit Training on Increasing Vo2max Endurance in Musi Rawas Mega Futsal Players." (Fitriyansyah et al., 2021) this research used the Pre-Experimental method with a research design, namely one group pretest-posttest. The comparative design of the differences between relevant research and the research the author conducted is:

<table>
<thead>
<tr>
<th>NO</th>
<th>Difference</th>
<th>Relevant Research</th>
<th>Research Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Types of research Mean</td>
<td>Experiment</td>
<td>Pre Experiment</td>
</tr>
<tr>
<td>2</td>
<td>Pre-test = 45.26</td>
<td>Pre-test = 37.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post-test = 46.94</td>
<td>Post-test = 44.6</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Sample Characteristics</td>
<td>all mega futsal players</td>
<td>Scorpio basketball player</td>
</tr>
<tr>
<td></td>
<td>musi futsal totaling 30 samples</td>
<td>Jakarta KU-16 men, totalling 15 samples</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>T-count &amp; T-table</td>
<td>T-count = 4.87</td>
<td>T-count = - 15,799</td>
</tr>
<tr>
<td></td>
<td>T-table = 1.70</td>
<td>T-table = 2.144</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Then (4.87 &gt; 1.70)</td>
<td>Then (+ 15,799 &gt; 2,144)</td>
<td></td>
</tr>
</tbody>
</table>

Pretest results = 45.26 and post-test = 46.94, so there is an increase in results from training, carried out during the meeting following the planned training program produced an average value of 1.68. Based on the results of the table regarding the t-test (paired
sample t-test), the 2-tailed sig result value = 0.000 < 0.05 and the calculated T value > t table. The conclusion from the results of the research that has been carried out is that training using the circuit training method can have a positive impact on increasing endurance in Scorpio Jakarta Ku-16 basketball players.

CONCLUSIONS AND SUGGESTIONS

Conclusions

Based on the results of data analysis, hypothesis testing and discussion presented in the previous chapter, this research concludes that there is a significant influence between elbow training on increasing vo2max in Scorpio Jakarta basketball players.

Suggestions

Oriented to the results of the analysis and conclusions of the research that has been carried out, the author proposes several suggestions to coaches in training basketball, especially on increasing endurance or increasing vo2max of players as follows

1) The main thing that basketball players must do to have good endurance is to train using the Circuit Training method.

2) When preparing a Circuit Training program to increase endurance in basketball, a coach should combine various types of training.

3) Further research needs to be carried out by adding other variables, and there are still many shortcomings in this research, so future researchers should develop and perfect the training program in this research.

REFERENCES


The Effect of Circuit Training On Increasing VO₂ Max In Scorpio Jakarta Basketball Players
Rido Arman Syah¹, Dany Aulia², M. Arief Setiawan³, Habibi Hadi Wijaya³, Qorry Armen Gemael ¹
1910631240029@student.unsika.ac.id

INTRODUCTION


The Effect of Circuit Training On Increasing VO2 Max In Scorpio Jakarta Basketball Players
Rido Arman Syah1, Dany Aulia2, M. Arief Setiawan3, Habibi Hadi Wijaya4, Qorry Armen Gemael 5
1910631240029@student.unsika.ac.id


713
The Effect of Circuit Training On Increasing VO2 Max In Scorpio Jakarta Basketball Players
Rido Arman Syah1, Dany Aulia2, M. Arief Setiawan3, Habibi Hadi Wijaya4, Qorry Armen Gemael5
1910631240029@student.unsika.ac.id

