

**PENGARUH METODE *CIRCUIT TRAINING AEROBIC* TERHADAP
PENINGKATAN DAYA TAHAN OTOT LENGAN**

SKRIPSI

Diajukan untuk memenuhi sebagian dari syarat memperoleh gelar
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Sebuah skripsi yang diajukan untuk memenuhi salah satu syarat untuk
memperoleh gelar Sarjana Sains di Fakultas Pendidikan Olahraga dan Kesehatan
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TERHADAP PENINGKATAN DAYA TAHAN OTOT LENGAN

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ABSTRAK

**PENGARUH METODE AEROBIK CIRCUIT TRAINING TERHADAP
PENINGKATAN DAYA TAHAN OTOT LENGAN**

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Salah satu permasalahan yang terjadi di Indonesia adalah kalenderisasi kompetisi yang selalu tidak tepat waktu. Waktu tanggal, minggu, bahkan bulan setiap pelaksanaannya tidak tetap. Penelitian ini dilakukan untuk menguji pengaruh penerapan metode *circuit training aerobic* terhadap peningkatan *daya tahan otot lengan*. Metode latihan yang dapat digunakan dalam menghadapi kondisi tersebut adalah *circuit training*, metode latihan yang terdiri dari beberapa pos, yang disusun satu putaran latihan dimana setiap pos mempunyai bentuk latihan berbeda. Peneliti melakukan penelitian tentang penerapan metode yang merupakan modifikasi dari metode sebelumnya, dalam *circuit training aerobic* ini diantara pos latihan diberikan aktivitas aerobik dengan lari sub maksimal dengan jarak 200 meter, diharapkan terjadi peningkatan komponen kondisi fisik secara bersamaan dan signifikan dalam mengatasi permasalahan yang terjadi. Metode penelitian yang digunakan *The Matching Only Pretest Posttest Control Group Design*. Sampel penelitian ini berjumlah 20 orang dibagi menjadi dua kelompok, 10 orang kelompok eksperimen dan 10 orang kelompok kontrol. Hasil dari penelitian ini menunjukkan terdapat pengaruh metode *circuit training aerobic* terhadap peningkatan daya tahan otot lengan. Dalam pengolahan data mendapat nilai signifikansi 0,011 yang berarti terdapat perbedaan signifikan. Nilai perbedaan rata rata kelompok eksperimen 7,7 dan kontrol mempunyai nilai perbedaan rata rata 3,6. Diharapkan metode ini dapat dikembangkan dalam penelitian selanjutnya, yang menjawab dari permasalahan tentang kalenderisasi yang tidak tepat waktu.

Kata kunci : *circuit training*, *circuit training aerobic*, *daya tahan otot lengan*

ABSTRACT

**THE EFFECT OF AEROBIC CIRCUIT TRAINING METHODS ON
MUSCLE ENDURANCE ARM**

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One of the problems that occur in Indonesia is the calendar of competitions that are always not on time. The date, week, even month of each implementation is always not fixed. This study was conducted to examine the effect of applying the aerobic circuit training method to increase the endurance of arm muscles. The training method that can be used in dealing with these conditions is the circuit training, a training method consisting of several posts, which are arranged in a round of exercises where each post has a different form of training. The researcher conducted a study of the application of the method which is a modification of the previous method, in this aerobic circuit training between training posts aerobic activity is given with maximum sub running with a distance of 200 meters. The research method used is The Matching-Only Pretest Posttest Control Group Design. The sample of this study amounted to 20 people who were divided into two groups, 10 experimental groups and 10 control groups. The results of this study indicate that there is an effect of the aerobic circuit training method on increasing the endurance of arm muscles. In processing the data got a significance value of 0.011 which means there are significant differences. The value of the difference in the average of the experimental group 7.7 and the control has a value of the average difference of 3.6. It is hoped that this method can be developed in further research, which answers the problems of calendarization that are not timely.

Keyword : *aerobic circuit training, circuit training, muscle endurance arm*

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DAFTAR RUJUKAN

1. Buku dan Artikel Jurnal

- Al-Haliq, M. (2015). Using The Circuit Training Method To Promote The Physical Fitness Components Of The Hashemite University Students. *Advances In Physical Education*, 05(03), 170–175. <Https://Doi.Org/10.4236/Ape.2015.53021>
- Arazi, H. (N.D.). Multiple Sets Resistance Training : Effects Of Condensed Versus Circuit Models On Muscular Strength , Endurance And Body Composition, 7(4), 733–740. <Https://Doi.Org/10.4100/Jhse.2012.74.01>
- Arjunan, R. (2015). Effect Of Circuit Training And Anaerobic Interval Training On Speed And Strength Among Men Handball Players, 3(10), 75–80.
- Babu, M. S., & Kumar, P. P. S. P. (2014). Effect Of Continuous Running Fartlek And Interval Training On Speed And Coordination Among Male Soccer Players I . Introduction Aerobic Physical Work Out Are Done With Oxygen . Use Of Oxygen In The Body Metabolic Or Energy Generating Process To Perform Th, 1(1), 33–41.
- Biju, S. (2016). Twelve Weeks Of Circuit Training On Muscular Endurance And Abstract : Introduction : Methodology :, 1–4.
- Bompa, T. O. (1999). *Periodization: Theory And Methodology Of Training*. 4th Ed. Champaign, Ill. : Human Kinetics;
- Brett, K., & Chris, J. (2013). Circuit Training Using Body Weight : Maximum Resultswith Minimalinvestment. *Acsm's Health & Fitness Journal*, 17(3), 8–13.
- Brill, P. A., Macera, C. A., Davis, D. R., Blair, S. N., & Gordon, N. (2000). Muscular Strength And Physical Function. *Medicine And Science In Sports And Exercise*, 32(2), 412–416. <Https://Doi.Org/10.1097/00005768-200002000-00023>
- Buchheit, M., & Laursen, P. B. (2013). High-Intensity Interval Training, Solutions To The Programming Puzzle. *Sports Medicine*, 43(5), 313–338. <Https://Doi.Org/10.1007/S40279-013-0029-X>
- Campus, A. K. (2009). Effect Of Circuit Training On The Sprint-Agility And Anaerobic Endurance 23(6), 1803–1810.
- Creswell, J. W. (2009) Research Design: Qualitative, Quantitative, and Mixed Methods Approaches
- Darisman, Ramadi, S. (N.D.). Perbedaan Pengaruh Latihan Interval Training Lari Jarak 100 Meter Dengan 200 Meter Terhadap Daya Tahan Erobik Pada Kondisi Fisik Pemain Sepak Bola. *Pendidikan Kepelatihan Olahraga Fakultas Keguruan Dan Ilmu Pendidikan Universitas Riau*.
- Patricia E. Moshe., Et Al (1994) Effects Of 12 Weeks Of Aerobic Circuit Training On Aerobic Capacity, Muscular Strength, And Body Composition In College Age Women . *Journal Of Strength And Conditioning Research* 8(3), 144-148 Effects_Of_12_Weeks_Of_Aerobic_Circuit_Training_On.4.Pdf. (N.D.).
- Fraenkel; J. R.; Wallen; N.; & Hyun; H. (2011). *Summary For Policymakers. Climate Change 2013 - The Physical Science Basis*. Cambridge University, Press. <Https://Doi.Org/10.1017/Cbo9781107415324.004>

- Kamaruzaman, S., Ali, S., Arumugam, M. A. P. K., Kamaluddin Megatdaud, M. A., & Ab, R. S. (2015). The Effectiveness Of Circuit Training In Enhancing Muscle Endurance Among Standard Five Boys In A Primary School, 2(1), 11–16.
- Karmarkar, U. (2013). Effects Of Circuit Training Program On Physical Fitness Among Female Students: Alibo High School Horo Guduru Wollega Zone (Oromia Region) A Thesis Submitted To The Department Of Mathematics, (June).
- Kumar, P. P. S. P. (2013). The Effect Of Circuit Training On Cardivascular Endurance Of Highschool Boys, 13(7).
- Mackenzie, B. (2008). *101 Tests D'évaluations Test*. brian@brianmac.demon.co.uk, @electricwordplc.com
Electric Word plc 67-71 Goswell Road
- Muthu Eleckuvan, R. (2017). Effectiveness Of Fartlek Training On Maximum Oxygen Consumption And Resting Pulse Rate. *International Journal Of Physical Education, Fitness And Sports*, 3(1), 85–88.
<Https://Doi.Org/10.26524/14115>
- Reddy, J. M. (2012). Comparison Of Circuit Training Methods On Performance Variables Of Sc/St Non-Sc/St Boys
- Relays, S. And. (1989). *Track And Field Coaching Manual*. *Track And Field Coaching Manual*.
- Strength, D. O. F. (N.D.). Empowering Irish Sport Circuit Training Development Of Strength And Conditioning
- Thompson, P. (2014). Benefits And Risks Associated With Physical Activity. *Acsm's Guidelines For Exercise Testing And Prescription*, 3.
- Wirat Sonchan, Pratoom Moungmee, A. S. (2017). The Effects Of A Circuit Training Program On Muscle Strenght, Agility, Anaerobic Performance And Cardiovascular Endurance. *International Journal Of Sport And Health Science*.

2. Sumber Online

- Adam Cloe, 2019. (N.D.). Retrieved From <Https://Www.Sportsrec.Com/158446-How-Does-Circuit-Training-Improve-Muscular-Endurance.Html>
- Undang Undang No.3 Tentang Sistem Keolahragaan Nasional
<Www.Hukumonline.Com>. (2005), 1–46.