

**PENGARUH METODE *CIRCUIT TRAINING AEROBIC* TERHADAP  
PENINGKATAN DAYA TAHAN KECEPATAN LAKTASID**

SKRIPSI

Diajukan sebagai salah satu syarat untuk memperoleh gelar Sarjana Sains  
Program Studi Ilmu Keolahragaan



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**PROGRAM STUDI ILMU KEOLAHRAGAAN  
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Sebuah skripsi yang diajukan untuk memenuhi salah satu syarat memperoleh gelar  
Sarjana Sains pada Fakultas Pendidikan Olahraga dan Kesehatan Program Studi  
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**ABSTRAK**  
**PENGARUH METODE *CIRCUIT TRAINING AEROBIC* TERHADAP  
PENINGKATAN DAYA TAHAN KECEPATAN LAKTASID**

**OKKY OCTAVIAN**  
**1500022**

**Pembimbing : Iman Imanudin S.Pd., M.Pd<sup>1</sup> , Mustika Fitri, M.Pd., Ph.D<sup>2</sup>**

Salah satu permasalahan olahraga prestasi di Indonesia yaitu tidak tetapnya kalenderisasi kompetisi, seringkali kompetisi diadakan secara mendadak sehingga dapat mengganggu waktu program latihan atau periodisasi latihan yang telah ditentukan sehingga dikhawatirkan atlet tidak tampil dalam performa terbaiknya. Tujuan penelitian ini yaitu untuk mengetahui pengaruh metode *circuit training aerobic* untuk meningkatkan daya tahan kecepatan laktasid mahasiswa laki-laki tingkat pertama Ilmu Keolahragaan Universitas Pendidikan Indonesia. Metode yang digunakan dalam penelitian ini adalah experimental dengan desain penelitian *The Matching - Only Pretest - Posttest Control Group Design* dengan perlakuan berupa pemberian latihan sirkuit yang ditambah dengan aerobik 200 meter lari submaksimal dengan durasi latihan 45-60 menit dan 9 pos pada subjek 3 hari dalam seminggu selama 4 minggu latihan. Populasi dalam penelitian ini adalah seluruh mahasiswa laki-laki tingkat pertama program studi Ilmu Keolahragaan Universitas Pendidikan Indonesia sebanyak 60 orang. Pengambilan sampel menggunakan *purposive sampling* dengan jumlah sampel sebanyak 20 orang dan pengukuran hasilnya dengan menggunakan metode instrumen test sprint 400 meter. Data yang diperoleh diolah menggunakan software IBM SPSS v.20. Hasil dalam penelitian ini menyatakan nilai  $t = 8,789$  dan nilai  $\text{Sig } 0,000 < 0,05$  yaitu terdapat pengaruh yang signifikan metode *circuit training aerobic* terhadap peningkatan daya tahan kecepatan laktasid.

Kata kunci : *Circuit Training Aerobic* Dan Daya Tahan Kecepatan Laktasid

**ABSTRACT**  
**THE EFFECT OF AEROBIC CIRCUIT TRAINING ON LACTASIDE  
SPEED ENDURANCE IMPROVEMENT**

**OKKY OCTAVIAN**  
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One of the sports achievement issues in Indonesia is the non-permanent calendaring of competitions, often competitions are held suddenly so that they can interfere with the time of the training program or the predetermined period of training so that it is feared that athletes do not perform at their best. The purpose of this study was to determine the effect of the circuit aerobic training method to increase the lactasid speed endurance of first-tier male students at the University of Indonesia Sports Science. The method used in this study was experimental with the research design The Matching - Only Pretest - Posttest Control Group Design with the treatment in the form of providing circuit training coupled with 200 meter aerobic submaximal running with training duration of 45-60 minutes and 9 posts on the subject 3 days in a week for 4 weeks of practice. The population in this study were all 60 first-level male students of the Sport Science study program at the University of Indonesia. Sampling uses purposive sampling with a total sample of 20 people and measuring the results using the 400 meter test sprint instrument method. The data obtained is processed using IBM SPSS v.20 software. The results in this study state the value of  $t = 8.789$  and the Sig value of  $0.000 < 0.05$  which is a significant influence on the method of aerobic circuit training on increasing the lactasid speed endurance.

Keywords: Aerobic Circuit Training and Lactasid Speed Endurance

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## DAFTAR RUJUKAN

### 1. Buku dan Artikel Jurnal

- Alcaraz Ramón PE , Sánchez-Lorente J, B. A. (2008). *Physical performance and cardiovascular responses to an acute bout of heavy resistance circuit training versus traditional strength training*. *J Strength Cond Res*, 22, 667–671.
- Arnason, A., Sigurdsson, S. B., Gudmundsson, A., Holme, I., Engebretsen, L., & Bahr, R. (2004). *Physical Fitness, Injuries, and Team Performance in Soccer*. *Physical Fitness and Performance*, 36, 278–285.
- Barth, K., & Zampel, U. (2013). *Training Soccer*. Oxford: Mayer & Mayer.
- Bashir, S., & Hajam, B. A. (2017). *The effect of fartlek training on speed and endurance of physical education students of Annamalai University*. *International Journal of Academic Research and Development*, 2(5), 142–145.
- Bompa, T. O. (1999). *Periodization: theory and methodology of training*. 4th ed. Champaign, Ill. : Human Kinetics;
- Bompa, T. O. (2009). *Periodization: theory and methodology of training*. Champaign, Ill. : Human Kinetics; (5th ed.).
- 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>
- Creswell, J. W. (2009). 8530-Article Text-20365-2-10-20120307. *Canadian Journal of University Continuing Education*, 35(2), 2–4. <https://doi.org/10.1590/S1415-65552003000100015>
- Dintiman, G. B. (1964). *Effects of various training programs on running speed*. *Research Quarterly of the American Association for Health, Physical Education and Recreation*, 35(4), 456–463. <https://doi.org/10.1080/10671188.1964.10613341>
- Donnelly, J. E., Hillman, C. H., Castelli, D., Etnier, J. L., Lee, S., Tomporowski, P., ... Szabo-Reed, A. N. (2016). *Physical activity, fitness, cognitive function, and academic achievement in children: A systematic review*. *Medicine and Science in Sports and Exercise*, 48(6), 1197–1222. <https://doi.org/10.1249/MSS.0000000000000901>
- Eaton, R. (1989). *Sports Action Badminton*. Muenchen: Octopus Book Co. Ltd.
- Fox, E. L. (1993). *The Physiological Basic of Exercise and Sport* (5th ed.). USA : Wim. C. Brown Publisher.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2011). *How to Design Research in Education and Evaluate* (8th ed.). Cambridge University, Press. <https://doi.org/10.1017/CBO9781107415324.004>
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (1932). *How to Design and Evaluate Research in Education* (8th ed.). McGraw-Hill.
- Harriss, D. J., & Atkinson, G. (2014). *Ethical Standards in Sport and Exercise Science Research* : 2014 Update, 1025–1028. <https://doi.org/http://dx.doi.org/10.1055/s-0033-1358756>
- Ireland, C. (2001). *Empowering Irish Sport Circuit Training Development of Strength and Conditioning Circuit Training*. Development Of Strength And

Conditioning.

- Karak, K., & Mandal, T. (2016). *Comparative study on physical fitness between physical education students and general students*. *International Journal of Physical Education, Sports and Health*, 3(1), 223–226.
- Mackenzie, B. (2005). *Performance Evaluation Tests 101*. (B. Mackenzie & Brian@brianmac.demon.co.uk, Eds.). Pye, Jonathan.
- Mayorga-Vega, D., Viciano, J., & Cocca, A. (2013). *Effects of a Circuit Training Program on Muscular and Cardiovascular Endurance and their Maintenance in Schoolchildren*. *Journal of Human Kinetics*, 37(1), 153–160. <https://doi.org/10.2478/hukin-2013-0036>
- Mellitus, W. W. I. D., Mosher, P. E., Nash, M. S., Perry, A. C., Laperriere, A. R., & Goldberg, R. B. (1998). Aerobic Circuit Exercise Training : Effect on Adolescents. *Archives of Physical Medicine and Rehabilitation*, 79(6), 652–657.
- Nossek, J. (1982). *General Theory of Training*. Lagos: Pan Africa Press, Ltd.
- Pallant, J. (2010). *SPSS Survival Manual* (4th ed.). Allen & Unwin Book Publishers.
- Pratiknyo, E. D. (2010). *Tes Pengukuran dan Evaluasi Olahraga*. Semarang: Wida Karya.
- Rani, S., & Malik, A. (2017). *A study of effects of circuit training on selected physical fitness variables of sports persons*, 2(2), 10–14.
- Reilly, T. (2007). *The Science of Training – Soccer: A Scientific approach to developing strength, speed and endurance*, 208.
- Rushall, B. S., & Pyke, F. S. (1990). *Training for sports and fitness*. Melbourne, Australia: Macmillan Educational.
- Schmolinsky, G. (1983). *Track and Field: The East German Textbook of Athletics*. DVL Sport verlag.
- Seyedi, S. reza. (2018). *Effects of High Intensity Interval Training on Anaerobic Performance & Aerobic Power on Male Basketball Players*. *Medicine & Science in Sports & Exercise*, 50, 768. <https://doi.org/10.1249/01.mss.0000538529.93111.75>
- Sharkey, B. . (1997). *Fitness and health* (4th ed.). Champaign, IL : Human Kinetics.
- Takeshima, N., Rogers, Æ. M. E., Islam, M. M., & Yamauchi, Æ. T. (2004). *Effect of concurrent aerobic and resistance circuit exercise training on fitness in older adults*, 173–182. <https://doi.org/10.1007/s00421-004-1193-3>
- Taskin, H. (2013). *E Ffect of I Ntensity of a Erobic T Raining on*, 23(6), 1803–1810.
- Taylor K., D. J. A. (2013). *The effect of circuit training*. *Archives of Physical Medicine and Rehabilitation*, 13(7).
- Thomas, K., & Ph, D. (2015). *Relationship Of Physical Fitness To Athletic Performance And Sports*, 162, 12.
- Thompson, P. (2014). *Benefits and Risks Associated with Physical Activity*. ACSM’s Guidelines For Exercise Testing and Prescription, 3.
- Tsolakis, CK, Bogdanis, GC, Vagenas, GK, and Dessypris, A. (2006). *Influence of a twelve-month conditioning program on physical growth, serum hormones, and neuromuscular performance of peripubertal male fencers*. *J Strength Cond Res* 20(4).

Wirat Sonchan, Pratoon Moungrmee, A. S. (2017). *The Effects of a Circuit Training Program on Muscle Strength, Agility, Anaerobic Performance and Cardiovascular Endurance*. International Journal of Sport and Health Science, 11(4), 176–179. Retrieved from <http://www.statista.com/statistics/275056/total-number-of-health->

## **2. Sumber Online**

Muhaimin. (2018). *Tidak Siap, Jadwal Porda Pinrang Diundur*. Retrieved from <https://makassar.sindonews.com/read/12496/5/tidak-siap-jadwal-porda-pinrang-diundur-1534162134>

