

**PENGARUH PENGGUNAAN MODEL PERIODESASI GELOMBANG
(*UNDULATING*) DALAM KEKUATAN TERHADAP PENINGKATAN
KEKUATAN MAKSIMAL**

SKRIPSI

diajukan untuk memenuhi sebagian syarat untuk memperoleh gelar Sarjana

Olahraga

Program Studi Ilmu Keolahragaan



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MAKSIMAL**

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ABSTRAK
PENGARUH PENGGUNAAN MODEL PERIODISASI GELOMBANG
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Kekuatan maksimal merupakan hal yang penting dalam setiap cabang olahraga. Permasalahan yang sering terjadi dalam setiap cabang olahraga adalah ketika performa berada di puncak di waktu yang kurang tepat karena periodisasi latihan dan jadwal pertandingan yang tidak sesuai. Maka tujuan dari penelitian ini adalah untuk menunjukkan adanya peningkatan yang signifikan dari kekuatan maksimal dengan menggunakan periodisasi *undulating*. Menggunakan metode penelitian eksperimen One Group Pre-Test Post-Test Design. Sampel sebanyak 15 mahasiswa Ilmu Keolahragaan 2019. Dengan menggunakan test 1 RM *bench press* sebagai instrumen untuk mengukur kekuatan maksimal *upperbody* dan test 1 RM *leg press* sebagai instrumen untuk mengukur kekuatan maksimal *lowerbody*. Analisis data yang digunakan yaitu *paired sample t-test*. Hasil dari penelitian ini menunjukkan bahwa adanya peningkatan kekuatan maksimal pada *upperbody* dan *lowerbody* yang signifikan dengan menggunakan periodisasi gelombang (*undulating*).

Kata Kunci : Model Periodisasi Gelombang, Kekuatan Maksimal

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DAFTAR PUSTAKA

- Ali Maksum. (2012). Pengumpulan data. *Jurnal Metode Pengumpulan Data*.
- American College of Sports Medicine. (2002). Progression models in resistance training for healthy adults. *Medicine Science Sports Exercise*, 34, 364–380.
- Baker, D., Wilson, G., & Carlyon, R. (1994). Periodization: The effect on strength of manipulating volume and intensity. *Journal of Strength and Conditioning Research*, 8, 235–242.
- Bompa, T. O. (1996). *Theory and Methodology of Training*. Orietta Calcina.
- Brown, L., & Weir, J. (2001). Procedures recommendation I: Accurate assessment of muscular strength and power. *Journal Exercise Physiology*, 4, 1–21.
- Carlock, J. S. L., Smith, M., & Harmant. (2004). Relationship between vertical jump power estimates and weightlifting ability: A fieldtest approach. *Journal of Strength and Conditioning Research*, 18, 534–539.
- Cronin, J. B., McNair, P. J., & Marshall, R. N. (2000). The role of maximal strength and load on initial power production. *Medicine Science Sports Exercise*, 3, 1763–1769.
- Dikdik, S., Paulus, P., & Luky, A. (2019). *Pelatihan Kondisi Fisik*. (Nita, Ed.). Bandung: PT REMAJA ROSDAKARYA.
- Dolezal, B., & Potteiger, J. (1998). Concurrent resistance and endurance training influence basal metabolic rate (BMR) in nondieting individuals. *Journal Applied Physiology*, 86, 695–700.
- Emzir. (2012). *Metodologi Penelitian Pendidikan, Kuantitatif dan Kualitatif*. Jakarta: Rajawali Pers.
- Fees, M., Decker, T., Snyder-Mackler, L., & Axe, M. (1998). Upper extremity weight-training modifications for the injured athlete: a clinical perspective. *Journal Sport Medicine*, 26, 732–742.
- Fraenkel, J. R., & Wallen, N. E. (2012). *How to Design and Evaluate*.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to Design and Evaluate Research in Education*. (M. Ryan, Ed.) (8th ed.). New York.

- Freemann, W. H. (1989). *Peak When It Count*. Los Altos: Tafnews Press.
- Häkkinen, K., Pakarinen, A., Alen, M., Kauhanen, H., & Komi, P. (1988). Neuromuscular and hormonal adaptations in athletes to strength training in two years. *Journal Applied Physiology*, *65*, 2406–2412.
- Häkkinen, K., Pakarinen, A., Alen, M., Kauhanen, M., & Komi, P. (1987). Relationships between training volume, physical performance capacity, and serum hormone concentrations during prolonged training in elite weight lifters. *Int J Sports Med*, *8*, S61–S65.
- Harsono. (1988). *Coaching dan Aspek-aspek Psikologis dalam Coaching*. Bandung: Tambak Kusuma CV.
- Iman, I., & Unun, U. (2019). *Ilmu Kepelatihan Olahraga*. Bandung.
- Miranda, F., Simao, R., Rhea, M., Bunker, D., Prestes, J., Diego Leite, R., ... Novaes, J. (1830). Effects of Linear vs. Daily Undulatory Periodized Resistance Training on Maximal and Submaximal Strength Gains. *Journal of Strength & Conditioning Research*, (1824), 1824–1830.
- Monteiro, A. G., Aoki, M. S., Evangelista, A. L., Alveno, D. A., Monteiro, G. A., Piçarro, I. D. C., & Ugrinowitsch, C. (2009). Nonlinear periodization maximizes strength gains in split resistance training routines. *Journal of Strength and Conditioning Research*. <https://doi.org/10.1519/JSC.0b013e3181a00f96>
- Moss, B., Refnes, M. P. E., Abilgaard, A., Nicolaysen, K., & J. Jensen. (1997). Effects of maximal effort strength training with different loads on dynamic strength, cross-sectional area, load-power and load-velocity relationships. *Journal Applied Physiology*, *75*, 193–199.
- Painter, K. B., Haff, G. G., Ramsey, M. W., McBride, J., Triplett, T., Sands, W. A., ... Stone, M. H. (2011). Strength Gains : Block Versus Daily Undulating Periodization Weight Training Strength Gains : Block Versus Daily Undulating Periodization Weight Training Among Track and Field Athletes, (December). <https://doi.org/10.1123/ijsp.7.2.161>
- Peterson, M. D., Dodd, D. J., Alvar, B. A., Rhea, M. R., & Favre, M. (2008). Undulation training for development of hierarchical fitness and improved firefighter job performance. *Journal of Strength and Conditioning Research*.

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<https://doi.org/10.1519/JSC.0b013e31818215f4>

Potteiger, J., Judge, L., Cerny, J., & Potteiger, V. (1995). Effects of altering training volume and intensity on body mass, performance, and hormonal concentrations in weight-event athletes. *Journal of Strength and Conditioning Research*, *9*, 55–58.

Prestes, J., Frollini, A. B., de Lima, C., Donatto, F. F., Foschini, D., de Cássia Marqueti, R., ... Fleck, S. J. (2009). Comparison between linear and daily undulating periodized resistance training to increase strength. *Journal of Strength and Conditioning Research / National Strength & Conditioning Association*.

<https://doi.org/10.1519/JSC.0b013e3181c03548>

Pye, J. (n.d.). *Performance Evaluation Tests 101*.

Rhea, M. R., & Alderman, B. L. (2004). A meta-analysis of periodized versus nonperiodized strength and power training programs. *Research Quarterly for Exercise and Sport*.

<https://doi.org/10.1080/02701367.2004.10609174>

Rhea, M. R., Phillips, W. T., Burkett, L. N., Stone, W. J., Ball, S. D., Alvar, B. A., & Thomas, A. B. (2003). A comparison of linear and daily undulating periodized programs with equated volume and intensity for local muscular endurance. *Journal of Strength and Conditioning Research*, *17*(1), 82–87. [https://doi.org/10.1519/1533-4287\(2003\)017<0082:ACOLAD>2.0.CO;2](https://doi.org/10.1519/1533-4287(2003)017<0082:ACOLAD>2.0.CO;2)

Richard, E. (1989). *Sports Action Badminton*. Muenchen: Octopus Book Co. Ltd.

Sajoto. (1988). *Pembinaan kondisi fisik dalam olahraga*. Jakarta: departemen pendidikan dan kebudayaan.

Simão, R., Farinatti Pde, T., Polito, M., Maior, A., & Fleck, S. (2005). Influence of exercise order on the number of repetitions performed and perceived exertion during resistance exercises. *Journal of Strength and Conditioning Research*, *19*, 152–156.

Sinclair, R. G. (1985). Normalizing the performances of athletes in Olympic weightlifting. *Journal Applied Sport Science*, *10*, 94–98.

Stone, M. (2000). Comparison of the effects of three different weighttraining programs on the one repetition maximum squat. *Journal of Strength and Conditioning Research*, *14*, 332–337.

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- Stone, M. H., G. Moir, M., Glaiser, & Sanders, R. (2002). How much strength is necessary? *Physiology Theraphy Sport*, 3, 88–96.
- Stone, M. H., K. Sanborn, H. S., & O’Bryant. (2003). Maximum strengthpower-performance relationships in collegiate throwers. *Journal of Strength and Conditioning Research*, 17, 739–745.
- Stone, M. H., O’Bryant, H. S., Mccoy, L., Coglianese, R., M.Lehmkuhl, & B. Schilling. (2003). Power and maximum strength relationships during performance of dynamic and static weighted jumps. *Journal of Strength and Conditioning Research*, 17, 140–147.
- Stone, M. H., W. A. Sands, J., & Carlock. (2004). The importance of isometric maximum strength and peak rate of force development in sprint cycling. *Journal of Strength and Conditioning Research*, 18, 878–884.
- Stone, Michael H, Sands, W. A., Pierce, K. C., Carlock, J. O. N., Cardinale, M., & Newton, R. U. (n.d.). Weightlifting Performance, 1037–1043.