

## DAFTAR PUSTAKA

- Aertssen, W. F. M., van de Kamp, A., Jelsma, L. D., & Smits-Engelsman, B. C. M. (2024). Reliability and validity of the modified shuttle test-paeds to measure cardiorespiratory fitness in children. *BMC Pediatrics*, 24(343), 1–8. <https://doi.org/10.1186/s12887-024-04812-0>
- Ahmad, Z. F. F., Nugraha, W. R., Yudhistira, D. R. A., Prasetyo, B. T., Subarjah, M. A., Septiaji, W. D., Wijaya, H. H., Nursolihah, I., & Afifah, M. D. (2024). Gambaran status gizi pemain futsal U-18 Angin Puyuh Club. *Sports Collaboration Journal (SCJ)*, 2(1), 23–27. <https://doi.org/10.35473/scj.v2i01.3228>
- Anggara, F. T., & Subagio, I. (2022). Standarisasi *VO2max* atlet sepak bola PON Jatim 2021 (tahap akhir persiapan khusus). *Jurnal Prestasi Olahraga*, 5(2), 156–163. <https://ejournal.unesa.ac.id/index.php/jurnal-prestasi-olahraga>
- Apriansah, R., Ramadhani, D. R., Gregorius, R. V. R., Sulthan, M. I., & Sriundy, I. M. (2025). Evaluation of fitness level of elementary school in Surabaya through MFT Test. *Proceeding of International Joint Conference on UNESA*, 3(1), 151–158. <https://proceeding.unesa.ac.id/index.php/pijcue>
- Aryanto, A. F., Tinduh, D., Putra, I. P. A. P., Melaniani, S., & Handayani, V. W. (2024). Relationship between assesment of physical activity with body mass index and maximum oxygen volume in adult men with overweight and obesity. *Clinical Students*, 71(3), 267–272. <https://doi.org/10.37897/RMJ.2024.3.9>
- Bayu, I. M. A. (2017). Profil tingkat *VO2max* pada siswa sekolah sepak bola (SSB) Palembang Muda. *Wahana Didaktika*, 15(3), 103–112. <https://jurnal.univpgri-palembang.ac.id/index.php/didaktika>
- Bimantara, G., Hardiansyah, A., & Darmu'in. (2023). Hubungan status gizi, persen lemak tubuh, dan kadar hemoglobin terhadap kualitas *VO2maks* siswa sekolah sepak bola Sport Supaya Sehat Semarang. *Jurnal Gizi*, 12(1), 20–26. <https://doi.org/10.26714/jg.12.1.2023.20-26>
- BKPK Kementerian Kesehatan RI (2024). Survei Kesehatan Indonesia (SKI) tahun 2023. Jakarta: Kementerian Kesehatan RI.
- Bompa, T. O., & Haff, G. G. (2019). *Periodization: theory and methodology of training (6<sup>th</sup> ed.)*. Human Kinetics.
- Capric, I., Stankovic, M., Spirtovic, O., Corovic, M., Mujanovic, D., Mojsilovic, Z., Jelaska, I., & Zilic-fiser, S. (2023). Cardiovascular fitness in normal weight and obese children and adolescents – A systematic review of studies published sfter 2000s. *International Journal of Morphology*, 41(6), 1852–1862. <https://doi.org/10.4067/S0717-95022023000601852>

- Carayanni, V., Bogdanis, G. C., Vlachopapadopoulou, E., Koutsouki, D., Manios, Y., Karachaliou, F., Psaltopoulou, T., & Michalacos, S. (2022). Predicting  $VO_{2max}$  in children and adolescents aged between 6 and 17 using physiological characteristics and participation in sport activities: A cross-sectional study comparing different regression models stratified by gender. *Children*, 9(1935), 1–28. <https://doi.org/10.3390/children9121935>
- Darmawan, L. T. T., & Sulaiman. (2024). Perbandingan tingkat kemampuan fisik daya tahan ( $VO_{2max}$ ) siswa SSB U-15 di dataran tinggi dengan dataran rendah Kabupaten Purbalingga. *Indonesian Journal of Physical Education and Sport*, 5(1), 1–8. <https://journal.unnes.ac.id/journals/inapes/article/view/518>
- Debbian, A., & Rismayanthi, C. (2016). Profil tingkat volume oksigen maskimal ( $VO_{2max}$ ) dan kadar hemoglobin (Hb) pada atlet Yongmoodo Akademi Militer Magelang. *Jurnal Olahraga Prestasi*, 12(2), 19–30. <https://doi.org/10.21831/jorpres.v12i2.11874>
- Dobrowolska, A., Domagalska-szopa, M., Siwiec, A., & Szopa, A. (2022). Association between cardiopulmonary capacity and body mass composition in children and adolescents with high body weight: A cross-sectional study. *Children*, 9(5). <https://doi.org/10.3390/children9050647>
- Efendy, M. S., Andiana, O., & Pribadi, H. P. (2023). Pengaruh latihan interval terhadap peningkatan kapasitas  $VO_{2maks}$  pemain akademi AREMA FC U16. *Jurnal Ilmiah Adiraga*, 9(1), 1–10. <https://doi.org/10.36456/adiraga.v9i1.7024>
- Fuadi, I. (2023). *Hubungan indeks massa tubuh dengan tingkat  $VO_{2max}$  siswa jalur prestasi olahraga SMAN 2 Kebumen Jawa Tengah*. Skripsi, Fakultas Ilmu Keolahragaan dan Kesehatan, Universitas Negeri Yogyakarta, Yogyakarta.
- Ghozali, I. (2018). *Aplikasi analisis multivariate dengan program IBM SPSS (9<sup>th</sup> ed.)*. Badan Penerbit Universitas Diponegoro.
- Hurlock, E. B. (1989). *Psikologi perkembangan: Suatu pendekatan sepanjang rentang kehidupan (5<sup>th</sup> ed.)*. Erlangga.
- Hutajulu, P. T. (2016). Pengaruh latihan high interval intensity training dalam meningkatkan nilai volume oksigen maksimum atlet sepak bola junior (U-18). *Jurnal Penjakora*, 3(1), 1–10. <https://doi.org/10.23887/penjakora.v3i1.11664>
- Indrayana, B., & Yuliawan, E. (2019). Penyuluhan pentingnya peningkatan  $VO_{2max}$  guna meningkatkan kondisi fisik pemain sepak bola Fortuna FC Kecamatan Rantau Rasau. *Jurnal Ilmiah Sport Coaching and Education*, 1, 41–50. <https://doi.org/10.21009/JSCE.03105>
- Inzaghi, M. F., Sulastio, A., & Aspa, A. P. (2025). Pengaruh latihan interval training terhadap peningkatan  $VO_{2max}$  siswa Sekolah Sepak Bola (SSB) Prima Taruna U-15 Kabupaten Indragiri Hulu. *JASSI: Journal Sport Science Indonesia*, 4(2), 48–58. <https://doi.org/10.31258/jassi.4.2.48-58>

- Irmansyah, F., & Hariyoko. (2024). Analisis indeks massa tubuh dan tingkat daya tahan kardiovaskular ( $VO_2max$ ) siswa kelas keberbakatan cabang sepak bola di SMA. *Maximal Journal: Jurnal Ilmiah Bidang Sosial, Ekonomi, Budaya Dan Pendidikan*, 1(5), 192–200. <https://malaqbiipublisher.com/index.php/MAKSI/article/view/188>
- Jatmikanto, R. S. (2023). *Pengaruh latihan interval terhadap daya tahan aerobik dan daya tahan anaerobik pemain sepak bola ditinjau dari daya tahan otot*. Tesis, Fakultas Ilmu Keolahragaan dan Kesehatan, Universitas Negeri Yogyakarta, Yogyakarta.
- Kenney, W. L., Wilmore, J. H., & Costill, D. L. (2020). *Physiology of sport and exercise (7<sup>th</sup> ed.)*. Human Kinetics.
- Léger, L. A., & Lambert, J. (1982). A maximal multistage 20-m shuttle run test to predict  $VO_2max$ . *European Journal of Applied Physiology*, 49, 1–12. <https://doi.org/doi.org/10.1007/BF00428958>
- Lestari, K. D. P., Wahyuni, N., Nugraha, M. H. S., & Tianing, N. W. (2020). Hubungan indeks massa tubuh, persentase lemak total tubuh, dan aktivitas fisik terhadap tingkat volume oksigen maksimal pada remaja putri di Denpasar Selatan. *Majalah Ilmiah Fisioterapi Indonesia*, 8(1), 28–35. <https://doi.org/10.24843/MIFI.2020.v08.i01.p11>
- Mahya, H., & Arifai. (2025). Pengaruh latihan shalom dribble terhadap peningkatan keterampilan dribbling sepak bola. *Jurnal Porkes*, 8(2), 686–696. <https://doi.org/10.29408/porkes.v8i2.30165>
- Marks, K., Kopeć, D., Lenik, J., Lenik, P., & Dziadek, B. (2024). Selected somatic parameters and body composition as predictors of cardiorespiratory fitness among polish adolescents aged 11 – 14. *Scientific Reports*, 14, 1–9. <https://doi.org/10.1038/s41598-024-75821-3>
- Mintarto, E., & Fattahilah, M. (2019). Efek suhu lingkungan terhadap fisiologi tubuh pada saat melakukan latihan olahraga. *Journal of Sport and Exercise Science*, 2(1), 9–13. <https://journal.unesa.ac.id/index.php/jses>
- Modric, T., Versic, S., & Sekulic, D. (2020). Aerobic fitness and game performance indicators in professional football players; playing position specifics and associations. *Heliyon*, 6(11), 1–6. <https://doi.org/10.1016/j.heliyon.2020.e05427>
- Mondal, H., & Mishra, S. P. (2017). Effect of BMI, body fat percentage and fat free mass on maximal oxygen consumption in healthy young adults. *Journal of Clinical and Diagnostic Research*, 11(6), 17–20. <https://doi.org/10.7860/JCDR/2017/25465.10039>
- Muchtar, F., Rejeki, S., & Hastian. (2022). Pengukuran dan penilaian status gizi anak usia sekolah menggunakan indeks massa tubuh menurut umur. *Abdi Masyarakat*, 4(2), 142–146. <https://doi.org/10.58258/abdi.v4i2.4098>

- Nasrulloh, A., Yuniana, R., & Pratama, K. W. (2021). The effect of skipping combination with body weight training on cardiorespiratory endurance and Body Mass Index (BMI) as a Covid-19 prevention effort for overweight adolescents. *Jurnal Keolahragaan*, 9(2), 220–230. <https://doi.org/doi.org/10.21831/jk.v9i2.41678>
- Nastiti, Y. S. T., & Firmansyah. (2023). Hubungan antara status gizi dan persen lemak tubuh dengan kebugaran jasmani pada atlet bola basket Universitas Muhammadiyah Surakarta. *Health Information: Jurnal Penelitian*, 15(2), 1–9. <https://myjurnal.poltekkes-kdi.ac.id/index.php/hijp/article/view/1246>
- Notoatmodjo, S. (2018). *Metodologi penelitian kesehatan*. Rineka Cipta.
- Novitasari, A., & Setiarini, A. (2020). Hubungan indeks massa tubuh dengan nilai prediksi Volume Oksigen Maksimal ( $VO_{2max}$ ) pada atlet pria usia <20 tahun: Systematic review. *Jurnal Kesehatan Komunitas*, 6(1), 7–12. <https://doi.org/10.25311/keskom.Vol6.Iss1.378>
- Nurmitasari, G. (2020). *Faktor-faktor yang mempengaruhi nilai  $VO_{2max}$  pada remaja dengan metode narrative review*. Skripsi, Fakultas Ilmu Kesehatan, Universitas 'Aisyiyah Yogyakarta, Yogyakarta.
- Nurpratiwi, R., Solikah, N. L., Susanti, S., Ayuningtyas, T. R., Rochmania, A., Saputri, R. K., Azizah, I. N., & Nevangga, R. P. (2025). The relationship between Body Mass Index (BMI) and  $VO_{2max}$  in sports students. *Journal of Sport Medicine and Physiotherapy*, 1(1), 34–39. <https://journal.unesa.ac.id/index.php/jsmp/article/view/43372>
- Oukheda, M., Bouaouda, K., Mohtadi, K., Lebrazi, H., Derouiche, A., Kettani, A., Saile, R., & Taki, H. (2023). Association between nutritional status, body composition, and fitness level of adolescents in physical education in Casablanca, Morocco. *Frontiers in Nutrition*, 10. <https://doi.org/10.3389/fnut.2023.1268369>
- Pradana, A. L., Pratama, B. A., & Weda. (2025). Hubungan indeks massa tubuh dengan tingkat  $VO_{2max}$  siswa jalur prestasi olahraga SMA Negeri 6 Kota Kediri. *IPSSJ: Integrative Perspective of Social and Science Journal*, 2(1), 1140–1148. <https://ipssj.com/index.php/ojs/article/view/166>
- Puspitasari, K. D., & Widarini, N. P. (2021). Overweight is associated with low fitness level among regional government employees in Denpasar City. *Public Health and Preventive Medicine Archive*, 9(2), 85–90. <https://doi.org/10.15562/phpma.v9i2.317>
- Putra, A. T., & Sutan, A. (2020). Kontribusi kelentukan dan daya ledak otot terhadap heading sepak bola. *Jurnal Patriot*, 2(2), 616–626. <http://gladiator.ppj.unp.ac.id/index.php/gltdor/article/view/120>
- Putra, N. D. D., Hadi, H., & Galih, P. D. (2025). Kondisi fisik pemain Sekolah Sepak bola (SSB) Dikpora Weleri. *Jurnal Ilmiah Penjas*, 11(1), 144–156. <https://doi.org/10.36728/jip.v11i1.4078>

- Putra, S., Emral, E., Arsil, A., & Sin, T. H. (2023). Konsep model latihan fisik pada sepak bola. *Jurnal EDUCATIO: Jurnal Pendidikan Indonesia*, 9(2), 974–985. <https://doi.org/10.29210/1202323429>
- Reilly, T., & Collins, K. (2008). Science and the gaelic sports: Gaelic football and hurling. *European Journal of Sport Science*, 8(5), 231–240. <https://doi.org/10.1080/17461390802251851>
- Scheffler, C., & Hermanussen, M. (2018). Growth in childhood and puberty. *Springer International Publishing*, 10, 65–76. <https://doi.org/10.1007/978-3-319-32122-6>
- Sepúlveda, C., Monsalves-álvarez, M., Troncoso, R., & Weisstaub, G. (2025). Children and adolescents with overweight or obesity exhibit poor cardiorespiratory performance and elevated energy expenditure during an exercise task. *PLOS ONE*, 20(7), 1–16. <https://doi.org/10.1371/journal.pone.0327875>
- Setiawan, A., Agust, K., Maesaroh, S., & AF, O. F. (2024). Profil status gizi dan kebutuhan kalori siswa SSB Bukit Kemuning FA Tahun 2024. *Jumper: Jurnal Mahasiswa Pendidikan Olahraga*, 5(2), 454–463. <https://doi.org/10.55081/jumper.v5i2.2912>
- Solís-Ortiz, S., Gutiérrez-Muñoz, M., Morado-Crespo, L., Trejo-Bahena, S. A., & Kala, L. (2016). Executive functions correlated with body mass index in overweight middle-aged women. *Psychology*, 7, 410–417. <https://doi.org/10.4236/psych.2016.73043>
- Sugiyono. (2020). *Metodologi penelitian kuantitatif, kualitatif dan R & D*. ALFABETA.
- Sukma, A. M. F., & Sulendro, S. (2022). Pengaruh latihan Circuit Training terhadap daya tahan aerobik pemain sepak bola SSB Perkasa usia 12-15 Trenggalek. *Jurnal Pendidikan Kesehatan Rekreasi*, 8(1), 109–118. <https://doi.org/10.5281/zenodo.5824947>
- Syahroni, M., Pradipta, G. D., & Kusumawardhana, B. (2019). Analisis pembinaan prestasi terhadap manajemen olahraga Sekolah Sepak bola (SSB) se-kabupaten Pati tahun 2019. *JOSSAE: Journal of Sport Science and Education*, 4(2), 85–90. <https://doi.org/10.26740/jossae.v4n2.p85-90>
- Tim IPO Nasional Kemenpora RI (2024). *Laporan indeks pembangunan olahraga 2024*. Jakarta: Deputi Bidang Pembudayaan Olahraga Kementerian Pemuda dan Olahraga Republik Indonesia
- Trioclarise, R., Kurniawan, G. P. D., & Anggreani, I. S. (2022). Hubungan indeks massa tubuh, durasi latihan dan  $VO_2max$  pada pemain sepak bola amatir usia 11-14 tahun di sekolah sepak bola tahun 2022. *Jurnal Fisioterapi Dan Kesehatan Indonesia*, 02(02), 11–21. <https://doi.org/10.59946/jfki.2022.151>
- Ulya, D. N. (2024). *Hubungan antara status gizi dan  $VO_2max$  studi observasional analitik pada mahasiswi Fakultas Kedokteran Universitas Islam Sultan Agung (UNISSULA) Semarang*. Skripsi, Fakultas Kedokteran, Universitas Islam Sultan Agung, Semarang.

- WHO. (2007). *Growth reference data for 5-19 years*. <https://www.who.int/tools/growth-reference-data-for-5to19-years>
- WHO. (2009). *WHO AnthroPlus for personal computers manual software for assessing growth of the world's children and adolescents*. Department of Nutrition for Health and Development, World Health Organization.
- WHO (2022) Global status report on physical activity 2022. Tersedia di : <https://www.who.int/teams/health-promotion/physical-activity/global-status-report-on-physical-activity-2022> (diakses pada 15 Januari 2026)
- Wibowo, C., & Dese, D. C. (2019). Hubungan indeks massa tubuh dengan  $VO_2max$  pada atlet bolabasket. *Physical Education, Health and Recreation*, 3(2), 19–25. <https://doi.org/10.24114/pjkr.v3i2.12251>
- Wicaksana, P. C., & Kartiko, D. C. (2023). Survei tingkat kebugaran jasmani peserta didik kelas X dan XI di SMAK Pirngadi Surabaya. *Jurnal Pendidikan Olahraga Dan Kesehatan*, 11(2), 293–298. <https://ejournal.unesa.ac.id/index.php/jurnal-pendidikan-jasmani/issue/view/2805>
- Wilmore, J. H., & Costill, D. L. (2015). *Physiology of sport and exercise (6<sup>th</sup> ed.)*. Human Kinetics.
- Wood, R. (2012). *VO<sub>2</sub>max norms for children and youth*. Topend Sports Website. <https://www.topendsports.com/testing/norms/VO2max.htm>
- Wulandari, Y. (2022). *Hubungan Indeks Massa Tubuh (IMT) dan aktivitas fisik dengan kebugaran jasmani peserta didik XI ISOS SMAN 1 Purbolinggo Lampung Timur di masa pandemi COVID-19*. Skripsi, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Lampung, Lampung.
- Yunus, M., Pratama, M. H., & Wahjuni, E. S. (2019). Meta analysis study : The effect of HIIT training on  $VO_2max$  improvement of football athletes. *Jurnal Pendidikan Jasmani, Olahraga Dan Kesehatan*, 6(2), 319–333. <https://doi.org/10.33503/jp.jok.v6i2.1018>
- Zhang, B., Shi, H., Cai, W., Yang, B., & Xiu, W. (2025). Metabolic syndrome in children and adolescents: Definitions, epidemiology, pathophysiology, interventions, and challenges. *Frontiers in Endocrinology*, 16, 1–13. <https://doi.org/10.3389/fendo.2025.1512642>