

**PENGARUH ANTHROPOMETRIC TERHADAP TECHNICAL SKILL
ATLET CLUB VOLLEY KHARISMA PREMIUM**

SKRIPSI

**Diajukan untuk memenuhi sebagian syarat memperoleh gelar Sarjana Sains
Program Studi Ilmu Keolahragaan**



Oleh :

Muhammad Farhan Dhliyaulhaq

1701894

**PRODI ILMU KEOLAHRAGAAN
DEPARTEMEN PENDIDIKAN KESEHATAN DAN REKREASI
FAKULTAS PENDIDIKAN OLAHRAGA DAN KESEHATAN
UNIVERSITAS PENDIDIKAN INDONESIA**

BANDUNG

2020

HAK CIPTA

PENGARUH *ANTHROPOMETRIC* TERHADAP *TECHNICAL SKILL* ATLET CLUB *VOLLEY* KHARISMA PREMIUM
SKRIPSI

Oleh :

Muhammad Farhan Dhliyaulhaq

Skripsi yang diajukan untuk memenuhi sebagai syarat untuk memperoleh gelar Sarjana Olahraga (S1) pada Fakultas Pendidikan Olahraga dan Kesehatan
Program Studi Ilmu Keolahragaan

Muhammad Farhan Dhliyaulhaq 2020

Universitas Pendidikan Indonesia

Desember 2020

Hak Cipta dilindungi undang-undang

Skripsi ini tidak boleh diperbanyak seluruhnya dan sebagian, dengan dicetak ulang, di fotokopi, atau cara lainnya tanpa izin dari penulis

**LEMBAR PENGESAHAN SKRIPSI
MUHAMMAD FARHAN DHLIYAUHAQ**

1701894

**PENGARUH ANTHROPOMETRIC TERHADAP TECHNICAL
SKILL ATLET CLUB VOLLEY KHARISMA PREMIUM**

diajukan dan disahkan oleh pembimbing:

Pembimbing Akademik:



Dr. Surdiniaty Ugelta, M.Kes., AIFO.

NIP. 19591220 198703 2 001

Mengetahui

Ketua Departemen Ilmu Keolahragaan



Mustika Fitri, M.Pd., Ph.D.

NIP. 196812201998022001

ABSTRAK

PENGARUH ANTHROPOMETRIC TERHADAP TECHNICAL SKILL ATLET CLUB VOLLEY KHARISMA

Olahraga voli merupakan olahraga yang membutuhkan eksekusi individu yang konsisten, karena dalam olahraga ini pemain secara bergiliran menempati posisi yang berbeda, yang mengharuskan tiap-tiap pemainnya menguasai teknik permainan voli dengan baik. Adapun teknik dalam permainan voli, yaitu: servis, pass atas, pass bawah, *smash*, dan *block*. Banyak faktor yang membuat atlet dapat melakukan teknik-teknik voli secara optimal, salah satunya adalah *anthropometric*.

Penelitian ini bertujuan untuk mengetahui pengaruh *anthropometric* terhadap *technical skill* atlet club voli Kharisma Premium. Adapun komponen *anthropometric* yang diukur adalah berat badan, tinggi badan, tinggi duduk, lingkaran panggul, lingkaran lengan, indeks massa tubuh, persentase lemak tubuh, lebar bahu, panjang kaki dan panjang lengan. Penelitian ini dilakukan kepada seluruh atlet voli club Kharisma Premium sebanyak 30 orang.

Metode yang digunakan dalam penelitian ini adalah metode kuantitatif kausal-korelasional. Pengumpulan data dilakukan dengan menggunakan observasi dan tes. Instrumen yang digunakan pada penelitian ini adalah timbangan seca, microtoice, pita baja, skinfold caliper, pita ukur metlin dan *Battery Test* dari Fauzi (2011). Selanjutnya, data diolah dengan analisis regresi.

Berdasarkan hasil penelitian menunjukkan bahwa terdapat pengaruh antara tinggi duduk terhadap *technical skill*. Sebanyak 15.5% tinggi duduk dapat mempengaruhi *technical skill* atlet, 84.5% sisanya dipengaruhi oleh variabel lain yang tidak diteliti pada penelitian ini. Tinggi badan berpengaruh sebesar 24% terhadap servis atlet club voli Kharisma Premium. Panjang kaki berpengaruh sebesar 22% terhadap *smash* atlet club voli Kharisma Premium. Tinggi badan berpengaruh sebesar 37.7% terhadap *block* atlet club voli Kharisma Premium.

Keyword: *anthropometric, technical skill, voli*

ABSTRACT

THE INFLUENCE OF ANTHROPOMETRIC ON TECHNICAL SKILL VOLLEYBALL CLUB ATHLETE KHARISMA PREMIUM

Volleyball is a sport that requires consistent individual execution, because in this sport players take turns occupying different positions, which require each player to master volleyball techniques well. The techniques in volleyball are: serve, top pass, lower pass, smash, and block. Many factors make athletes able to perform volleyball techniques optimally, one of which is anthropometrics.

This study aims to determine the effect of anthropometry on technical skills of volleyball athletes Kharisma Premium. The anthropometric components measured are body weight, height, sitting height, hip circumference, arm circumference, body mass index, body fat percentage, shoulder width, foot length, sleeve length. This research was conducted on all club volleyball athletes as many as 30 people.

The method used in this research is a causal-correlational quantitative method. Data collection was carried out by observation and tests. The instruments used in this study were the seca scale, microtic scale, steel tape, skin fold calipers, metlin measuring tape, and battery test from Fauzi (2011). Furthermore, the data is processed by regression analysis.

The results showed that there was a influence between sitting height and technical skills. As much as 15.5% anthropometry can affect the technical skills of athletes, the remaining 84.5% is influenced by other variables not examined in this study. High affects 24% of the service for volleyball athletes club Kharisma Premium. Leg length has an effect of 22% on the smash of volleyball athletes club Kharisma Premium. Height 37.7% influence the block volleyball athletes club Kharisma Premium .

Keyword: *anthropometric, technical skill, volleyball*

DAFTAR ISI

LEMBAR PENGESAHAN	i
ABSTRAK	ii
ABSTRACT	iii
KATA PENGANTAR.....	iv
DAFTAR ISI.....	vi
DAFTAR TABEL.....	vii
DAFTAR BAGAN DAN GAMBAR.....	x
DAFTAR LAMPIRAN	xi
BAB I PENDAHULUAN.....	1
1.1 Latar Belakang Masalah	1
1.2 Rumusan Masalah.....	3
1.3 Tujuan Penelitian	3
1.4 Manfaat Penelitian	3
1.5 Struktur Penulisan Skripsi	4
BAB II KAJIAN PUSTAKA, KERANGKA PEMIKIRAN DAN HIPOTESIS PENELITIAN	5
2.1. Kajian Pustaka.....	5
2.1.1. <i>Anthropometric</i> Pemain Voli.....	6
2.1.2. <i>Technical Skill</i> Atlet Voli	7
2.2. Penelitian Relafan.....	19
2.3. Kerangka Pemikiran	21
2.4. Hipotesis Penelitian.....	22
BAB III METODE PENELITIAN	23
3.1 Desain Penelitian	23
3.2 Variabel Penelitian.....	23
3.2.1. <i>Anthropometric</i>	23
3.2.2. <i>Technical Skill</i>	24
3.3 Subjek Penelitian	26
3.3.1. Karakteristik subjek penenelitian	26
3.3.2. Populasi	26
3.4 Teknik Pengumpulan Data	26
3.4.1. Metode Pengumpulan Data.....	26
3.4.2. Instrument Pengambilan Data.....	27

3.4.3. Alat Ukur	27
3.5 Pengujian Alat Ukur	33
3.5.1. Validitas	33
3.5.2. Realibilitas	33
3.6 Hipotesis Statistik	34
3.7 Teknik Analisis Data	35
3.7.1. Analisis Deskriptif	35
3.7.2. Uji Asumsi Klasik.....	35
3.7.3. Analisis Regresi	36
3.8 Prosedur Penelitian	49
BAB IV HASIL PENELITIAN DAN PEMBAHASAN.....	51
4.1 Hasil Penelitian.....	51
4.1.1. Gambaran Subjek Penelitian.....	51
4.1.2. Gambaran Hasil Data Penelitian.....	52
4.1.3. Pengujian Hipotesis Penelitian	58
4.2 Pembahasan	65
BAB V SIMPULAN DAN SARAN.....	67
5.1 Simpulan.....	67
5.2 Saran	68
DAFTAR PUSTAKA.....	69
LAMPIRAN.....	73

DAFTAR PUSTAKA

- Charoenpanich N, Boonsinsukh R, Sirisup S, Saengsirisuwan V. 2013. Principal component analysis identification major muscles recruited during vertical jump. *ScienceAsia* 39:257-64
- Chrysosferidis, P. (2018). *Using Anthropometrics to Predict Performance in Division I Female Volleyball Athletes*. Georgia Southern University.
- Ciccarone, G., Croisier, L., Fontani, G., Martelli, G., Albert, A., Zhang, L., & Cloes, M. (2008). Comparison between player specialization, anthropometric characteristics and jumping ability in top-level volleyball players. *Med Sport*, 61(1), 29-43.
- Creswell, J. W. (2014). *Research Design Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). California: SAGE Publications, Inc.
- Dearing, J. (2019). Volleyball Fundamentals. In *Philosophical Transactions of the Royal Society B: Biological Sciences* (Second Edi, Vol. 356). United States of America: Human Kinetics, Inc.
- Djaali, & Muljono, P. (2008). *Pengukuran dalam Bidang Pendidikan* (Y. B. Sudarmanto, Ed.). Jakarta: Grasindo.
- Fagard, R., Bielen, E., & Amery, A. (1991). Heritability of aerobic power and anaerobic energy generation during exercise. *Journal of Applied Physiology*, 70(1), 357–362. <https://doi.org/10.1152/jappl.1991.70.1.357>
- Fattahi A , Ameli M, Sadeghi H, dan Mahmoodi B.2012. Relationship between anthropometric parameters with vertical jump in male elite volleyball players due to game's position. *Journal of Human Sport & Exercise* 7: 714-726
- Fauzi. (2011). *Penyusunan Battery Test Olahraga Bola Voli*. Yogyakarta.
- Fink, H., & Mikesky, A. E. (2015). Practical Applications in Sports Nutrition. In *Journal of Chemical Information and Modeling* (4th ed, Vol. 110). United States of America: Jones & Bartlett Learning.
- Franks, B. D., & Moore, G. C. (1969). Effects of Calisthenics and Volleyball on the AAHPER Fitness Test and Volleyball Skill. *The Research Quarterly*, 40(2), 288–292. <https://doi.org/10.1080/10671188.1969.1061482>

- Gabbett, T., & Georgieff, B. (2007). Physiological and Anthropometric Characteristics of Australian Junior National, State, and Novice Volleyball Players. *The Journal of Strength and Conditioning Research*, 21(3), 902–908. <https://doi.org/10.1519/R-20616.1>
- Gaurav, V., Sandeep, Kumar, R., Singh, M., & Bhanot, P. (2015). Anthropometric Measurements of Volleyball Players at Different Level of Competition. *International Journal of Multidisciplinary and Current Research*, 3(December), 999–1002.
- Häkkinen, K. (1993). Changes in physical fitness profile in female volleyball players during the competitive season. *J Sports Med Phys Fitness*, 33(3), 223–232.
- Hardika, N. (2015). Profil Tingkat Kemampuan Fisik dan Keterampilan pada Atlet Kempo Praon Kota Pontianak. *Jurnal Pendidikan Olahraga*, 4(1), 80–87.
- Heyward, V. H., & Gibson, A. L. (2014). Advanced Fitness Assessment and Exercise Prescription. In *Medicine and Science in Sports and Exercise* (Seventh ed, Vol. 24). <https://doi.org/10.1249/00005768-199202000-00023>
- Kusdinar, Y., Ma'mun, A., & Rusdiana, A. (2019). Prediction of Anthropometric Influence on the Volleyball Playing Skills. *Advances in Health Sciences Research*, 11(October). <https://doi.org/10.2991/icsshpe-18.2019.96>
- Lasker, G. W. (1994). *Anthropometry: The Individual and the Population* (S. J. Ulijaszek & C. G. N. Mascie-Taylor, Eds.). Cambridge: Cambridge University Press.
- Lidor, R., & Ziv, G. (2010). Physical and physiological attributes of female volleyball players -a review. *Journal of Strength and Conditioning Research*, 24(7), 1963–1973. <https://doi.org/10.1519/JSC.0b013e3181ddf835>
- Masniar, & Wijaya, R. T. (2017). Perancangan Standard Paddock Sepeda Motor Multifungsi Menggunakan Metode Antropometri Statis. *Jurnal Metode*, 3(1), 1–5.

- Milić, M., Grgantov, Z., Chamari, K., Ardigò, L., Bianco, A., & Padulo, J. (2017). Anthropometric and physical characteristics allow differentiation of young female volleyball players according to playing position and level of expertise. *Biology of Sport*, *1*(34), 19–26. <https://doi.org/10.5114/biolsport.2017.63382>
- Morres I, Papaioannou G and Mustafin P. Analysis of sitting-volleyball tasks and the relationship between the classification status and performance amongst male elite sitting volleyball players -pilot study. In: Pre-olympic congress, Athens, Thessaloniki, 6–11 August 2004.
- Mulyono B. 1992. Tes dan Pengukuran dalam POR. Surakarta:Universitas Negeri Sebelas Maret
- Palao, J. M., Manzanares, P., & Valadés, D. (2014). Anthropometric, physical, and age differences by the player position and the performance level in volleyball. *J Hum Kinet*, *44*(1), 223-236.
- Purwanto. (2010). *Metode Penelitian Kuantitatif untuk Psikologi dan Pendidikan*. Yogyakarta: Pustaka Pelajar.
- Rahmawati, N. T. (1996). Beberapa ukuran antropometri pada atlet sepakbola dan bulutangkis di Yogyakarta. *Berkala Ilmu Kedokteran*, *28*(2), 72–78.
- Reynaud, C., & American Sport Education Program. (2011). *Coaching Volleyball Technical and Tactical Skills*. United States of America: Human Kinetics, Inc.
- Robbins. (2000). *Keterampilan Dasar*. Jakarta: PT. Raja Grafindo.
- Robinson B. (1993). Bola Voli (bimbingan, petunjuk & teknik Bermain). Jakarta: Dahara Prize
- Schutz, L. K. (1999). Volleyball. *Phys Med Rehabil Clin N Am*, *10*(1), 19–34.
- Soetisna, H. R., Mahachandra, M., & Widyanti, A. (2014). Data Antropometri Anak Sebagai Upaya Awal Penentuan Standar Ukuran Pakaian Anak (Clothing Size) Indonesia. *Seminar Nasional Teknik Industri BKSTI*, 103–108.
- Suharno, HP, 1984, 1985 Dasar-dasar Permainan Bola Voli, Yogyakarta :

Depdikbud.

- Stamm, R., Stamm, M., & Koskel, S. (2002). Age, body build, physical ability, volleyball technical and psychophysiological tests and proficiency at competitions in young female volleyballers (aged 13-16 years). In H. Kaarma (Ed.), *Papers on Anthropology XI* (pp. 253–282). Retrieved from http://dspace.ut.ee/bitstream/handle/10062/54755/papers_on_anthropology_11_ocr.pdf#pag%0Ae=251
- Stamm, R., Stamm, M., & Thomson, K. (2005). Role of adolescent female volleyball players' psychophysiological properties and body build in performance of different elements of the game. *Perceptual and Motor Skills*, *101*(7), 108–120. <https://doi.org/10.2466/pms.101.1.108-120>
- Sudarmanto, G. (2005). *Analisis Regresi Linear Ganda dengan SPSS*. Yogyakarta: Graha Ilmu.
- Sugiyono. (2016). *Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif, dan R&D)*. Bandung: Alfabeta.
- Sunyoto, D. (2012). *Analisis Validitas & Asumsi Klasik*. Yogyakarta: Gava Media.
- Suryabrata, S. (2012). *Metodologi Penelitian*. Jakarta: PT. RajaGrafindo Persada.
- Vujmilović, A., & Karalić, T. (2014). Differences of body dimensions in female volleyball players (cadets) in relation to volleyball playing position. *The Sport Journal*, *21*. Retrieved from <https://thesportjournal.org/article/differences-of-body-dimensions-in-female-volleyball-players-cadets-in-relation-to-volleyball-playing-position-2/>
- Winarno dkk. 2013. Teknik Dasar Bermain Bola Voli. Universitas Negeri Malang.