DAFTAR PUSTAKA

Abraham, A.et al. (2018). Sex differences in neuropathic pain intensity in diabetes. *J Neurol Sci*, May 15;388:103-106. doi: 10.1016/j.jns.2018.03.008

ADA. (2017). Standards of Medical Care in Diabetes. Volume 40;1

Alkhatatbeh, M., & Razzak, K. (2019). Neuropathic pain is not associated with serum vitamin D but is associated with female gender in patients with type 2 diabetes mellitus. BMJ Open Diab Res Care 2019;7:e000690. doi:10.1136/bmjdrc-2019-000690

Ali, H., & Adl, A. (2021). Study the role of dyslipidemia in cases of neuropathy with type 2 diabetes mellitus. Al-Azhar Assiut Medical Journal

Altoum, E. A., et al. (2018). Correlation Of Oxidative Stress Markers Malondialdehyde (Mda), Antioxidant Vitamins A, E, And C With Glycated Hemoglobin (Hba1c) Levels In Type 2 Diabetes Mellitus. *Asian J Pharm Clin Res*, Vol 11, Issue 5, 2018, 281-283

Amara, F., Hafez, S., Orabi, A., El Etriby, A., Abdel Rahim, A. A., Zakaria, E., Koura, F., Talaat, F. M., Gawish, H., Attia, I., Abdel Aziz, M. F., El Hefnawy, M., Kamar, M., Halawa, M. R., El-Sayed, M. S., El Kafrawy, N. A., Khalil, S., & Assaad, S. N. (2019). Review of Diabetic Polyneuropathy: Pathogenesis, Diagnosis and Management According to the Consensus of Egyptian Experts. Current diabetes reviews, 15(4), 340–345. https://doi.org/10.2174/1573399815666190226150402

Amelia, R., Wahyuni, A. S., & Yunanda, Y. (2019). Diabetic Neuropathy among Type 2 Diabetes Mellitus Patients at Amplas Primary Health Care in Medan City. *Open Access Maced J Med Sci.* 2019 Oct 30; 7(20): 3400–3403. doi: 10.3889/oamjms.2019.433

Amin, M. (2017). Klasifikasi Kelompok Umur Manusia Berdasarkan Analisis Dimensi Fraktal Box Counting Dari Citra Wajah Dengan Deteksi Tepi Canny. *MATHunesa (Jurnal Ilmiah Matematika*), 2(6).

APA National Center for Biotechnology Information (2022). PubChem Compound Summary for CID 10964, Malonaldehyde. Retrieved June 23, 2022 from https://pubchem.ncbi.nlm.nih.gov/compound/Malonaldehyde.

Argoff, C.E. *et al.* (2006) ‘Diabetic peripheral neuropathic pain: clinical and quality-of-life issues’, *Mayo Clinic Proceedings*, 81(4 Suppl), pp. S3-11. doi:10.1016/s0025-6196(11)61474-2.

Baba, M., Suzuki, C. and Ogawa, Y. (2018) ‘Severity grading system of diabetic neuropathy in type-2 diabetes by nerve conduction study: Five-year prospective study on occurrence of diabetic foot, macroangiopathic events, and eventual death’. doi:https://doi.org/10.11422/jscn.46.71.

Basset, et al. (2000). The Asia-Pacific Perspective: Redefining Obesity And Its Treatment. Asutralia: Health Communications Australia

Bhale, D.V., Patil, D.S., & Mahat, R.K. (2014). Study of Malondialdehyde (MDA) As a Marker of Oxidative Stress in Obese Male Individuals . *International Journal of Recent Trends in Science And Technology*, Volume 10, Issue 1, 2014 pp 51-52.

Boghdady, N. A., & Badr, G.A. (2012). Evaluation of oxidative stress markers and vascular risk factors in patients with diabetic peripheral neuropathy. *Cell biochemistry and function Cell Biochem Funct* (2012). DOI: 10.1002/cbf.2808

Callaghan, B.C., Cheng, H., *et al.* (2012) ‘Diabetic neuropathy: Clinical manifestations and current treatments’, *The Lancet. Neurology*, 11(6), pp. 521–534. doi:10.1016/S1474-4422(12)70065-0.

Cernea, S. and Raz, I. (2021) ‘Management of diabetic neuropathy’, *Metabolism*, 123, p. 154867. doi:10.1016/j.metabol.2021.154867.

‘Diabetic Neuropathy: Practice Essentials, Background, Anatomy’ (2021). Available at: https://emedicine.medscape.com/article/1170337-overview (Accessed: 20 January 2022).

Decroli, E., Manaf, A., Syahbuddin, S., Syafrita, Y., & Dillasamola, D. (2019). The Correlation between Malondialdehyde and Nerve Growth Factor Serum Level with Diabetic Peripheral Neuropathy Score. Open access Macedonian journal of medical sciences, 7(1), 103–106. https://doi.org/10.3889/oamjms.2019.029

Electromyography and Neuromuscular Disorders - 4th Edition (no date). Available at: https://www.elsevier.com/books/electromyography-and-neuromuscular-disorders/preston/978-0-323-66180-5 (Accessed: 22 January 2022).

Feldman, E.L. *et al.* (2019) 'Diabetic neuropathy', *Nature reviews. Disease primers*, 5(1), p. 42. doi:10.1038/s41572-019-0097-9.

Hardiany, N., Sucitra, S., & Paramita, R. (2020). Profile of malondialdehyde (MDA) and catalase specific activity in plasma of elderly woman. Health Science Journal of Indonesia, 10(2), 132-136. https://doi.org/10.22435/hsji.v12i2.2239

Himeno, T., Kamiya, H. and Nakamura, J. (2020) 'Diabetic polyneuropathy: Progress in diagnostic strategy and novel target discovery, but stagnation in drug development', *Journal of Diabetes Investigation*, 11(1), pp. 25–27. doi:10.1111/jdi.13188.

Hou, Y., et al. (2021). Effect of Type-2 Diabetes Mellitus in Retinopathy Patients on MDA, SOD Activity and its Correlation with HbA1c. *Article - Human and Animal Health, Braz. arch. biol. technol.* 64, https://doi.org/10.1590/1678-4324-2021200075

Iqbal, Z. *et al.* (2018) 'Diabetic Peripheral Neuropathy: Epidemiology, Diagnosis, and Pharmacotherapy', *Clinical Therapeutics*, 40(6), pp. 828–849. doi:10.1016/j.clinthera.2018.04.001.

Kamenov, Z.A. and Traykov, L.D. (2012) 'Diabetic somatic neuropathy', *Advances in Experimental Medicine and Biology*, 771, pp. 155–175. doi:10.1007/978-1-4614-5441-0_14.

Khan, K.S. and Andersen, H. (2021) 'The Impact of Diabetic Neuropathy on Activities of Daily Living, Postural Balance and Risk of Falls - A Systematic Review', *Journal of Diabetes Science and Technology*, p. 1932296821997921. doi:10.1177/1932296821997921.

Liu, X. *et al.* (2019) 'The risk factors for diabetic peripheral neuropathy: A meta-analysis', *PLoS ONE*, 14(2), p. e0212574. doi:10.1371/journal.pone.0212574.

Lu, Y., et al. (2020). Prevalence and Risk Factors for Diabetic Peripheral Neuropathy in Type 2 Diabetic Patients From 14 Countries: Estimates of the INTERPRET-DD

Study. Front. Public Health, 20 October 2020 Sec. Clinical Diabetes https://doi.org/10.3389/fpubh.2020.53437

Luis Miguel Román-Pintos, Geannyne Villegas-Rivera, Adolfo Daniel Rodríguez-Carrizalez, Alejandra Guillermina Miranda-Díaz, Ernesto Germán Cardona-Muñoz, "Diabetic Polyneuropathy in Type 2 Diabetes Mellitus: Inflammation, Oxidative Stress, and Mitochondrial Function", Journal of Diabetes Research, vol. 2016, Article ID 3425617, 16 pages, 2016. https://doi.org/10.1155/2016/3425617

Mao, F., et al. (2019). Age as an Independent Risk Factor for Diabetic Peripheral Neuropathy in Chinese Patients with Type 2 Diabetes. Aging Dis. 2019 Jun; 10(3): 592–600.

Maushmi Sheth. 2021. What is diabetic polyneuropathy?https://lonestarneurology.net/diabetic neuropathy/ diabetic - polyneuropathy/

Mildawati, M., Diani, N., & Wahid, A. (2019). Hubungan Usia, Jenis Kelamin Dan Lama Menderita Diabetes Dengan Kejadian Neuropati Perifer Diabetik. *Caring Nursing Journal*. Vol. 3 No. 2.

Min, H.K. *et al.* (2021) 'Impacts of statin and metformin on neuropathy in patients with type 2 diabetes mellitus: Korean Health Insurance data', *World Journal of Clinical Cases*, 9(33), pp. 10198–10207. doi:10.12998/wjcc.v9.i33.10198.

Miranda-Diaz, A.G. *et al.* (2014) 'Effect of rosuvastatin on diabetic polyneuropathy: a randomized, double-blind, placebo-controlled Phase IIa study', *Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy*, p. 401. doi:10.2147/DMSO.S65500.

Nakhjavani M, et al. (2010). Type 2 diabetes mellitus duration: an independent predictor of serum malondialdehyde levels. *Singapore Med J* 2010, 51(7) 583

Nazarina, 2013. Faktor-faktor yang berhubungan dengan kadar malondialdehydeplasma pada penyandang diabetes mellitus tipe 2. JURNAL GIZI KLINIK INDONESIAVol 9, No 3

Niki, E. (2008) ‘Lipid peroxidation products as oxidative stress biomarkers’, *BioFactors (Oxford, England)*, 34(2), pp. 171–180. doi:10.1002/biof.5520340208.

Oyenihi A., Ayeleso A., Mukwevho E., Masola B. Antioxidant strategies in the management of diabetic neuropathy. BioMed Res. Int. 2015;2015:1–15.

Papanas, N. and Ziegler, D. (2015) ‘Risk Factors and Comorbidities in Diabetic Neuropathy: An Update 2015’, *The Review of Diabetic Studies : RDS*, 12(1–2), pp. 48–62. doi:10.1900/RDS.2015.12.48.

Perez-Matos M., Morales-Alvarez M., Mendivil C. Lipids: A suitable therapeutic target in diabetic neuropathy? J. Diabetes Res. 2017;2017:6943851.

Pop-Busui, R. *et al.* (2017a) ‘Diabetic Neuropathy: A Position Statement by the American Diabetes Association’, *Diabetes Care*, 40(1), pp. 136–154. doi:10.2337/dc16-2042.

Qadir, A., et al. (2019). Prevalence of risk factors promoting Diabetic neuropathy. Pakistan Journal of Neurological Science, Vol 14 (2)

Rahmawati, A., & Hargono, A. (2018). Faktor Dominan Neuropati Diabetik Pada Pasien Diabetes Melitus Tipe 2. Jurnal Berkala Epidemiologi Volume 6 Nomor 1 (2018) 60-68

Riskesdas Kemenkes RI. 2018. Laporan Hasil Riskesdas 2018. (Online) https://www.litbang.kemkes.go.id/laporan-riset-kesehatan-dasar-riskesdas/

Román-Pintos LM, Villegas-Rivera G, Rodríguez-Carrizalez AD, Miranda-Díaz AG, Cardona-Muñoz EG. Diabetic Polyneuropathy in Type 2 Diabetes Mellitus: Inflammation, Oxidative Stress, and Mitochondrial Function. J Diabetes Res. 2016;2016:3425617. doi: 10.1155/2016/3425617. Epub 2016 Dec 12. PMID: 28058263; PMCID: PMC5183791.

Sinulingga, S., Kohar, E. and Subandrate, S. (2018) ‘Hubungan Profil Lipid dengan Kejadian Ulkus Kaki Diabetik pada Pasien Diabetes Melitus Tipe 2 RSUP dr.

Mohammad Hoesin Palembang', *SRIWIJAYA JOURNAL OF MEDICINE*, 1(3), pp. 182–191. doi:10.32539/SJM.v1i3.34.

Silvio Inzucchi, MD, Julio Rosenstock, MD, Guillermo Umpierrez, MD, Diabetic Neuropathy, The Journal of Clinical Endocrinology & Metabolism, Volume 97, Issue 5, 1 May 2012, Page 35A, https://doi.org/10.1210/jcem.97.5.zeg35a

Sung J-Y., Tani J., Chang T-S., Lin C.S-Y. Uncovering sensory ax-onal dysfunction in asymptomatic type 2 diabetic neuropathy. PLoS One. 2017;12(2):e0171223

Sunita, R. (2020). Evaluation of Malondialdehyde in Type 2 Diabetes Mellitus Patients as Oxidative Stress Markers in Bengkulu Population. Bioscientia Medicina : Journal of Biomedicine and Translational Research. Vol. 4 No. 3 https://doi.org/10.32539/bsm.v4i3.146

Tanjoto, E.A., Fakhrurrazy, F., & Suhartono, E. (2021). Literature Review: Korelasi Stres Oksidatif Dengan Tekanan Darah Pada Lanjut Usia. *Homeostasis,* Vol. 4 No. 1, April 2021: 227-236

Tesfaye, S., & Sloan, G. (2020). Diabetic Polyneuropathy - Advances in Diagnosis and Intervention Strategies. European endocrinology, 16(1), 15–20. https://doi.org/10.17925/EE.2020.16.1.15

Villegas-Rivera, G. *et al.* (2015) 'Effects of Ezetimibe/Simvastatin and Rosuvastatin on Oxidative Stress in Diabetic Neuropathy: A Randomized, Double-Blind, Placebo-Controlled Clinical Trial', *Oxidative Medicine and Cellular Longevity*, 2015, p. 756294. doi:10.1155/2015/756294.

Vincent, A.M. *et al.* (2009) 'Hyperlipidemia: a new therapeutic target for diabetic neuropathy', *Journal of the peripheral nervous system: JPNS*, 14(4), pp. 257–267. doi:10.1111/j.1529-8027.2009.00237.x.

Wang, K. et al. (2021). Retrospective study of the ultrasound characteristics of the tibial nerve in patients with type 2 diabetic peripheral neuropathy. *Ann Palliat Med* 2021;10(8):8787-8796 | https://dx.doi.org/10.21037/apm-21-157

World Health Organization (WHO). 2016. Global report on diabetes. WHO Press, Swiss

Yang, Z. *et al.* (2018) 'Scoring systems to screen for diabetic peripheral neuropathy', *The Cochrane Database of Systematic Reviews*, 2018(7), p. CD010974. doi:10.1002/14651858.CD010974.pub2.

Zheng Y, Ley SH, Hu FB. Global aetiology and epidemiology of type 2 diabetes mellitus and its complications. Nat Rev Endocrinol. 2018;14(2):88–98. https://doi.org/10.1038/nrendo.2017.151 PMid: 29219149. [PubMed] [Google Scholar] [Ref list]

Alshammari, N. A., Alodhayani, A. A., Joy, S. S., Isnani, A., Mujammami, M., Alfadda, A. A., & Siddiqui, K. (2022). Evaluation of Risk Factors for Diabetic Peripheral Neuropathy Among Saudi Type 2 Diabetic Patients with Longer Duration of Diabetes. Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy, 3007-3014.

Weng, Y. C., Tsai, S. S., Lyu, R. K., Chu, C. C., Ro, L. S., Liao, M. F., ... & Kuo, H. C. (2020). Diabetic distal symmetrical polyneuropathy: correlation of clinical, laboratory, and electrophysiologic studies in patients with type 2 diabetes mellitus. Journal of Diabetes Research, 2020.

Kaoje, Y. S., Bello, F., Bansi, I. K., Bakari, A. G., Yakubu, I. M., & Lawal, A. Y. (2020). Prevalence and severity of distal symmetrical polyneuropathy among patients with type 2 diabetes mellitus in Zaria, Nigeria. Open Access Text, 6, 1-4.

Liu, X., Xu, Y., An, M., & Zeng, Q. (2019). The risk factors for diabetic peripheral neuropathy: a meta-analysis. PloS one, 14(2), e0212574.

Nisar, M. U. *et al.* (2015) 'Association of Diabetic Neuropathy with Duration of Type 2 Diabetes and Glycemic Control', 7(8).

Oggiam, D. S., Jorgetto, J. V., Chinini, G. L., Kusahara, D. M., & Gamba, M. A. (2021). Distal Symmetric Polyneuropathy Pain in Diabetes Mellitus. Aquichan, 21(3).

Lee, C, Perkins, B, Kayaniyil, S, Harris, S, Retnakaran, R, Gerstein, H, et al. (2015). Peripheral neuropathy and nerve dysfunction in individuals at high risk for type 2 diabetes: the PROMISE cohort. Diabetes Care 38: 793–800

Schlesinger, S., Herder, C., Kannenberg, J. M., Huth, C., Carstensen-Kirberg, M., Rathmann, W., ... & Ziegler, D. (2019). General and abdominal obesity and incident distal sensorimotor polyneuropathy: insights into inflammatory biomarkers as potential mediators in the KORA F4/FF4 cohort. Diabetes care, 42(2), 240-247.

Bansal, D., Gudala, K., Muthyala, H., Esam, H. P., Nayakallu, R., & Bhansali, A. (2014). Prevalence and risk factors of development of peripheral diabetic neuropathy in type 2 diabetes mellitus in a tertiary care setting. Journal of diabetes investigation, 5(6), 714-721.

Clair, C., Cohen, M. J., Eichler, F., Selby, K. J., & Rigotti, N. A. (2015). The effect of cigarette smoking on diabetic peripheral neuropathy: a systematic review and meta-analysis. Journal of general internal medicine, 30, 1193-1203.
Burke, A., & FitzGerald, G. A. (2003). Oxidative stress and smoking-induced vascular injury. Progress in cardiovascular diseases, 46(1), 79-90.

Vijayakumar, P. A., Kalshetti, S. M., & Bhatt, J. K. (2014). Supplementation of a-lipoic acid in diabetic peripheral neuropathy: A prospective open-label randomized controlled trial. International Journal of Pharmacy and Pharmaceutical Sciences, 6, 90-3.

Siddique, N., Awais, F., Shakil, M., Sarwar, S., Kakar, N. H., & Ullah, M. I. (2021). Effect of anti-oxidant (α-lipoic acid) treatment on the improvement of diabetic neuropathic pain. Rawal Medical Journal, 46(1), 33-33.

Hsieh, R. Y., Huang, I. C., Chen, C., & Sung, J. Y. (2023). Effects of Oral Alpha-Lipoic Acid Treatment on Diabetic Polyneuropathy: A Meta-Analysis and Systematic Review. Nutrients, 15(16), 3634.

LAMPIRAN

Lampiran 1. Formulir demografi pasien penelitian :

Tgl Pemeriksaa		**Pemeriksa**		**Jam**	
Identitas Pasien					
Nomor Rekam Medis			Rumah Sakit		
Nama					
Umur/ Tanggal lahir	tahun / - - (tgl-bln-thn)				
Alamat / No telepon					
Jenis kelamin	L / P		Pendidikan terakhir		
Biometrik	TB = cm; BB = kg; IMT = kg/m^2				
Pekerjaan					
Tipe DM	1 / 2				
Durasi DM	tahun				
Berobat DM teratur	Ya / Tidak				
Tatalaksana DM	OAD / Insulin / OAD + insulin				
Riw.Penyakit Ginjal	Ya / Tidak				
Riw.Penyakit Hati	Ya / Tidak				
Riw.Penyakit keganasan					
Riw.Penyakit HIV					
Hipertensi	Ya / Tidak				
Riw merokok	Ya / Tidak				
HbA1c					

Kriteria Inklusi	**Ya**	**Tidak**
1. Pasien rawat jalan dengan DM Tipe 2 sesuai kriteria American diabetes association yang menderita DSPN.		
2. Pasien berusia antara 30-65 tahun		
3. Pasien Pasien dengan hasil HbA1c > 6,5%		
4. Pasien kooperatif dan bersedia diikutsertakan dalam penelitian ini dan menandatangani informed consent		
Kriteria Eksklusi	**Ya**	**Tidak**
1. Penderita penyakit ginjal kronis, penyakit hati kronis, penyakit keganasan dan penyakit HIV		
2. Pasien yang sedang menjalani kemoterapi		
3. Pasien merokok		

Lampiran-2

FORMULIR ELEKTROMIONEUROGRAFI (EMNG)

Parameter	Kanan	Kiri	Nilai Normal
Nervus Tibialis (Motorik)			
Latensi distal (ms)			≤5,8
Amplitudo (mV)			≥4,0
NCV (m/s)			≥41
Nervus Suralis (Sensorik)			
Latensi puncak (ms)			≤4,4
Amplitudo (μV)			≥6
NCV (m/s)			≥40

NCV: *Nerve Conduction Velocity*

Klasifikasi BDC : 0 / 1 / 2 / 3 / 4

Lampiran-3.

UJI NORMALITAS PARAMETER EMG

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	kategori	Statistic	df	Sig.	Statistic	df	Sig.
Tibialis LD standar	PRE	.441	30	.000	.352	30	.000
	POST	.431	30	.000	.275	30	.000
Tibialis AMP standar	PRE	.083	30	.200*	.964	30	.400
	POST	.118	30	.200*	.981	30	.851
Tibialis NCV Standar	PRE	.213	30	.001	.810	30	.000
	POST	.336	30	.000	.576	30	.000
Suralis LD standar	PRE	.344	30	.000	.729	30	.000
	POST	.362	30	.000	.529	30	.000
Suralis AMP standar	PRE	.261	30	.000	.639	30	.000
	POST	.289	30	.000	.732	30	.000
Suralis NCV standar	PRE	.242	30	.000	.855	30	.001
	POST	.339	30	.000	.775	30	.000
Tibialis LD ALA	PRE	.135	30	.172	.944	30	.118
	POST	.097	30	.200*	.943	30	.112
Tibialis AMP ALA	PRE	.085	30	.200*	.974	30	.642
	POST	.152	30	.075	.952	30	.187
Tibialis NCV ALA	PRE	.151	30	.078	.962	30	.339
	POST	.101	30	.200*	.981	30	.858
Suralis LD ALA	PRE	.358	30	.000	.627	30	.000
	POST	.112	30	.200*	.955	30	.224
Suralis AMP ALA	PRE	.368	30	.000	.678	30	.000
	POST	.131	30	.198	.896	30	.007
Suralis NCV ALA	PRE	.393	30	.000	.713	30	.000
	POST	.126	30	.200*	.870	30	.002

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
LD tibialis standar (pre)	30	7.2033	11.68307	2.70	50.00
NCV tibialis standar (pre)	30	34.4667	11.33725	.00	50.00
LD suralis standar (pre)	30	9.5900	9.17964	.00	32.00
AMP suralis standar (pre)	30	5.5867	8.73853	.00	35.70

NCV suralis standar (pre)	30	28.5333	23.91614	.00	70.00
LD suralis ALA (pre)	30	5.0267	7.74543	.00	20.00
AMP suralis ALA (pre)	30	1.3800	2.23952	.00	7.90
NCV suralis ALA (pre)	30	18.9333	26.78900	.00	80.00
LD tibialis standar (post)	30	5.7533	8.42278	2.90	50.00
NCV tibialis standar (post)	30	37.6667	10.77780	.00	47.00
LD suralis standar (post)	30	3.1333	5.85870	.00	20.00
AMP suralis standar (post)	30	3.4833	5.02937	.00	21.70
NCV suralis standar (post)	30	24.3333	28.21755	.00	75.00
LD suralis ALA (post)	30	2.3267	.88080	1.00	4.50
AMP suralis ALA (post)	30	5.5200	2.74483	2.00	12.70
NCV suralis ALA (post)	30	56.9333	23.52832	30.00	140.00

Uji Wilcoxon

Test Statistics[a]

	LD tibialis standar (post) - LD tibialis standar (pre)	NCV tibialis standar (post) - NCV tibialis standar (pre)	LD suralis standar (post) - LD suralis standar (pre)	AMP suralis standar (post) - AMP suralis standar (pre)	NCV suralis standar (post) - NCV suralis standar (pre)	LD suralis ALA (post) - LD suralis ALA (pre)	AMP suralis ALA (post) - AMP suralis ALA (pre)	NCV suralis ALA (post) - NCV suralis ALA (pre)
Z	-.445[b]	-1.615[c]	-3.692[b]	-1.643[b]	-.878[b]	-.216[c]	-4.721[c]	-3.785[c]
Asymp. Sig. (2-tailed)	.656	.106	.000	.100	.380	.829	.000	.000

a. Wilcoxon Signed Ranks Test
b. Based on positive ranks.
c. Based on negative ranks.

Uji T berpasangan

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	AMP tibialis standar (pre)	6.9200	30	4.45625	.81360
	AMP tibialis standar (post)	7.7167	30	4.13389	.75474
Pair 2	LD tibialis ALA (pre)	4.3167	30	.92962	.16972
	LD tibialis ALA (post)	4.2633	30	.79372	.14491
Pair 3	AMP tibialis ALA (pre)	6.5033	30	3.13803	.57292
	AMP tibialis ALA (post)	8.5133	30	4.04191	.73795
Pair 4	NCV tibialis ALA (pre)	42.6333	30	5.48027	1.00056
	NCV tibialis ALA (post)	42.1000	30	5.47313	.99925

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	AMP tibialis standar (pre) - AMP tibialis standar (post)	-.79667	2.45237	.44774	-1.71240	.11906	-1.779	29	.086
Pair 2	LD tibialis ALA (pre) - LD tibialis ALA (post)	.05333	1.01191	.18475	-.32452	.43119	.289	29	.775
Pair 3	AMP tibialis ALA (pre) - AMP tibialis ALA (post)	-2.01000	3.47834	.63506	-3.30883	-.71117	-3.165	29	.004
Pair 4	NCV tibialis ALA (pre) - NCV tibialis ALA (post)	.53333	7.54176	1.37693	-2.28281	3.34947	.387	29	.701

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	AMP tibialis standar (pre) & AMP tibialis standar (post)	30	.840	.000
Pair 2	LD tibialis ALA (pre) & LD tibialis ALA (post)	30	.319	.086
Pair 3	AMP tibialis ALA (pre) & AMP tibialis ALA (post)	30	.555	.001
Pair 4	NCV tibialis ALA (pre) & NCV tibialis ALA (post)	30	.052	.786

UJI NORMALITAS PARAMETER EMG (selisih)

1.0 = kelompok kontrol
2.0 = kelompok uji

Tests of Normality

	Kategori Kelompok Selisih	Kolmogorov-Smirnov[a] Statistic	df	Sig.	Shapiro-Wilk Statistic	df	Sig.
Tibialis LD selisih	1.00	.115	30	.200*	.968	30	.486
	2.00	.097	30	.200*	.963	30	.358
Tibialis AMP selisih	1.00	.113	30	.200*	.984	30	.912
	2.00	.168	30	.031	.911	30	.016
Tibialis NCV selisih	1.00	.159	30	.051	.915	30	.020
	2.00	.110	30	.200*	.969	30	.506
Suralis LD selisih	1.00	.263	30	.000	.862	30	.001
	2.00	.368	30	.000	.651	30	.000
Suralis AMP selisih	1.00	.193	30	.006	.868	30	.001
	2.00	.126	30	.200*	.929	30	.045
Suralis NCV selisih	1.00	.258	30	.000	.890	30	.005
	2.00	.120	30	.200*	.965	30	.412

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Independent T test

Group Statistics

	Kategori Kelompok Selisih	N	Mean	Std. Deviation	Std. Error Mean
Tibialis LD selisih	1.00	30	-.0500	1.09757	.20039
	2.00	30	.0533	1.01191	.18475