

BAB V

KESIMPILAN DAN SARAN

A. Kesimpulan

Pada hasil penelitian , disimpulkan bahwa 30 pasien (100%) dengan keluhan *low back pain* akibat *spasme otot*, dengan intervensi fisioterapi, baik pemberian fisioterapi konservatif (IRR dan TENS), fisioterapi konservatif dikombinasikan *myofascial release technique* maupun fisioterapi konservatif muscle energy technique tidak terdapat perbedaan dalam menurunkan nyeri.

B. Saran

1. Institusi Pendidikan

Penelitian ini dapat dilanjutkan dengan penelitian yang lebih mendalam, penggunaan data dan metode lebih mendalam dengan menggunakan uji statistik yang berbeda

2. Peneliti Selanjutnya

a. Peneliti selanjutnya diharapkan dapat mengkaji lebih banyak sumber atau referensi terkait dengan sarana prasarana pendidikan maupun efektifitas proses pembelajaran agar hasil penelitian bisa lebih baik dan lebih lengkap lagi.

b. Peneliti selanjutnya diharapkan lebih mempersiapkan diri dalam proses pengambilan dan pengumpulan data sehingga penelitian dapat dilaksanakan dengan lebih baik.

DAFTAR PUSTAKA

- A., J., Waxenbaum;., & Lu, M. (2020). *Physiology, Muscle Energy Technique*. <https://www.ncbi.nlm.nih.gov/books/NBK559029/#article-102985.s5>
- Aboodarda, S., Spence, A., & Button, D. C. (2015). Pain pressure threshold of a muscle tender spot increases following local and non-local rolling massage. *BMC Musculoskeletal Disorders*, 16(1), 1–10. <https://doi.org/10.1186/s12891-015-0729-5>
- Ajimsha, M. S., Al-Mudahka, N. R., & Al-Madzhar, J. A. (2015). Effectiveness of myofascial release: Systematic review of randomized controlled trials. *Journal of Bodywork and Movement Therapies*, 19(1), 102–112. <https://doi.org/10.1016/j.jbmt.2014.06.001>
- Allegri, M., Montella, S., Salici, F., Valente, A., Marchesini, M., Compagnone, C., Baciarello, M., Manferdini, M. E., & Fanelli, G. (2016). Mechanisms of low back pain: A guide for diagnosis and therapy [version 1; referees: 3 approved]. *F1000Research*, 5, 1–11. <https://doi.org/10.12688/F1000RESEARCH.8105.1>
- Balasubramaniam, A., Ghandi, V., & Sambandamoorthy, A. (2013). Role of myofascial release therapy on pain and lumbar range of motion in mechanical back pain: an exploratory investigation of desk job workers. *Ibnosina Journal of Medicine and Biomedical Sciences*, 6(2), 75–80.
- Behm, D. G., & Wilke, J. (2019). Do Self-Myofascial Release Devices Release Myofascia? Rolling Mechanisms: A Narrative Review. *Sports Medicine*, 49(8), 1173–1181. <https://doi.org/10.1007/s40279-019-01149-y>
- Bohns, V. K., & Wiltermuth, S. S. (2012). It hurts when I do this (or you do that): Posture and pain tolerance. *Journal of Experimental Social Psychology*, 48(1), 341–345. <https://doi.org/10.1016/j.jesp.2011.05.022>
- Buchbinder, R., Blyth, F. M., March, L. M., Brooks, P., Woolf, A. D., & Hoy, D. G. (2013). Placing the global burden of low back pain in context. *Best Practice and Research: Clinical Rheumatology*, 27(5), 575–589. <https://doi.org/10.1016/j.berh.2013.10.007>
- Campbell, P., Foster, N. E., Thomas, E., & Dunn, K. M. (2013). Prognostic indicators of low back pain in primary care: Five-Year Prospective Study. *Journal of Pain*, 14(8), 873–883. <https://doi.org/10.1016/j.jpain.2013.03.013>
- Cathcart, E., McSweeney, T., Johnston, R., Young, H., & Edwards, D. J. (2019). Immediate biomechanical, systemic, and interoceptive effects of myofascial release on the thoracic spine: A randomised controlled trial. *Journal of Bodywork and Movement Therapies*, 23(1), 74–81. <https://doi.org/10.1016/j.jbmt.2018.10.006>

- Chaitow, L., Franke, H., Lawrence, D. J., Chambers, G., Chaitow, L., Chaitow, L., & Franke, H. (2013). *Muscle Energy Techniques*.
- Claydon, L. S., Chesterton, L. S., Barlas, P., & Sim, J. (2011). Dose-specific effects of transcutaneous electrical nerve stimulation (TENS) on experimental pain: A systematic review. *Clinical Journal of Pain*, 27(7), 635–647. <https://doi.org/10.1097/AJP.0b013e31821962b4>
- Ellythy, M. A. (2012). Efficacy of Muscle Energy Technique Versus Myofascial Release on Function Outcome Measures in Patients with Chronic Low Back Pain. *Bulletin of Faculty of Physical Therapy*, 17(2), 29–35.
<http://erepository.cu.edu.eg/index.php/BFPTH/article/view/508/492>
- Facci, L. M., Nowotny, J. P., Tormem, F., & Trevisani, V. F. M. (2011). Effects of transcutaneous electrical nerve stimulation (TENS) and interferential currents (IFC) in patients with nonspecific chronic low back pain: Randomized clinical trial. *Sao Paulo Medical Journal*, 129(4), 206–216. <https://doi.org/10.1590/s1516-31802011000400003>
- Faqih, A. I., Bedekar, N., Shyam, A., & Sancheti, P. (2019). Effects of muscle energy technique on pain, range of motion and function in patients with post-surgical elbow stiffness: A randomized controlled trial. *Hong Kong Physiotherapy Journal*, 39(1), 25–33.
<https://doi.org/10.1142/S1013702519500033>
- Gürgen, S. G., Sayın, O., Çetin, F., & Tuç Yücel, A. (2014). Transcutaneous electrical nerve stimulation (TENS) accelerates cutaneous wound healing and inhibits pro-inflammatory cytokines. *Inflammation*, 37(3), 775–784. <https://doi.org/10.1007/s10753-013-9796-7>
- Huang, D., Gu, Y. H., Liao, Q., Yan, X. Bin, Zhu, S. H., & Gao, C. Q. (2012). Effects of linear-polarized near-infrared light irradiation on chronic pain. *The Scientific World Journal*, 2012.
<https://doi.org/10.1100/2012/567496>
- Hurwitz, E. L., Randhawa, K., Yu, H., Côté, P., & Haldeman, S. (2018). The Global Spine Care Initiative: a summary of the global burden of low back and neck pain studies. *European Spine Journal*, 27(0123456789), 796–801. <https://doi.org/10.1007/s00586-017-5432-9>
- Jiménez-Sánchez, S., Fernández-de-las-Peñas, C., Carrasco-Garrido, P., Hernández-Barrera, V., Alonso-Blanco, C., Palacios-Ceña, D., & Jiménez-García, R. (2012). Prevalence of chronic head, neck and low back pain and associated factors in women residing in the Autonomous Region of Madrid (Spain). *Gaceta Sanitaria*, 26(6), 534–540. <https://doi.org/10.1016/j.gaceta.2011.10.012>
- Johnson, M. I. (2012). Transcutaneous Electrical Nerve Stimulation

(TENS). *ELS*, 1–13.
<https://doi.org/10.1002/9780470015902.a0024044>

Kalichman, L., & Ben David, C. (2017). Effect of self-myofascial release on myofascial pain, muscle flexibility, and strength: A narrative review. *Journal of Bodywork and Movement Therapies*, 21(2), 446–451.
<https://doi.org/10.1016/j.jbmt.2016.11.006>

Kashyap, R., Iqbal, A., & Alghadir, A. H. (2018). Controlled intervention to compare the efficacies of manual pressure release and the muscle energy technique for treating mechanical neck pain due to upper trapezius trigger points. *Journal of Pain Research*, 11, 3151–3160.
<https://doi.org/10.2147/JPR.S172711>

Kemenkes RI. (2013). *Keputusan Menteri Kesehatan No.80 Tahun 2013*. 1536, 1–13.

Kowalski, R. J., Ferrara, L. A., & Benzel, E. C. (2012). Biomechanics of the spine. *Journal of The Spinal Research Foundation*, 7(2), 12–20.
<https://doi.org/10.1097/01.wnq.0000152406.39871.8e>

Kurt, V., Aras, O., & Beker, N. (2020). Comparison of conservative treatment with and without neural mobilization for patients with low back pain: A prospective, randomized clinical trial. *Journal of Back and Musculoskeletal Rehabilitation*, 1, 1–7.
<https://doi.org/10.3233/bmr-181241>

Lin, C. W. C., McAuley, J. H., MacEdo, L., Barnett, D. C., Smeets, R. J., & Verbunt, J. A. (2011). Relationship between physical activity and disability in low back pain: A systematic review and meta-analysis. *Pain*, 152(3), 607–613. <https://doi.org/10.1016/j.pain.2010.11.034>

Manchikanti, L., Singh, V., Falco, F. J. E., Benyamin, R. M., & Hirsch, J. A. (2014). Epidemiology of low back pain in Adults. *Neuromodulation*, 17(S2), 3–10. <https://doi.org/10.1111/ner.12018>

NV, K., GA, J., & PW, H. (2012). Physiotherapy movement based classification approaches to low back pain: comparison of subgroups through review and developer/expert survey. *BMC Musculoskeletal Disorders*, 13, 24.
<http://sfx.scholarsportal.info/western?sid=OVID:medline&id=pmid:22348236&id=doi:10.1186%2F1471-2474-13-24&issn=1471-2474&isbn=&volume=13&issue=1&spage=24&pages=24&date=2012&title=BMC+Musculoskeletal+Disorders&atitle=Physiotherapy+movement+based+classification>

Ojeniweh, N., Ezema, C. I., Anekwu, E. M., Amaeze, A. A., Olowe, O., & Okoye, G. C. (2015). *Efficacy of six weeks infrared radiation therapy on chronic low back pain and functional disability in National Orthopaedic Hospital, Enugu, south east, Nigeria*. 15(4), 155–160.

- Patrick, N., Emanski, E., & Knaub, M. A. (2014). Acute and chronic low back pain. *Medical Clinics of North America*, 98(4), 777–789.
<https://doi.org/10.1016/j.mcna.2014.03.005>
- Phadke, A., Bedekar, N., Shyam, A., & Sancheti, P. (2016). Effect of muscle energy technique and static stretching on pain and functional disability in patients with mechanical neck pain: A randomized controlled trial. *Hong Kong Physiotherapy Journal*, 35, 5–11.
<https://doi.org/10.1016/j.hkpj.2015.12.002>
- Putowski, M., Piróg, M., Podgórniaik, M., Padała, O., Sadowska, M., Bazylevycz, A., & Wdowiak, A. (2016). The use of electromagnetic radiation in the physiotherapy. *European Journal of Medical Technology European Journal of Medical Technologies*, 2(11), 53–58.
www.medical-technologies.eu
- Ramond, A., Bouton, C., Richard, I., Roquelaure, Y., Baufreton, C., Legrand, E., & Huez, J. F. (2011). Psychosocial risk factors for chronic low back pain in primary care-a systematic review. *Family Practice*, 28(1), 12–21. <https://doi.org/10.1093/fampra/cmq072>
- Samani, M., Motealleh, A., Yazdani, S., & Abbasi, L. (2017). Erratum: Effects of myofascial release technique on pain and disability in patients with chronic lumbar disc herniation: A randomized trial (Physikalische Medizin Rehabilitationsmedizin Kurortmedizin (2017) 27 (218-225) DOI: 10.1055/s-0043-115906). *Physikalische Medizin Rehabilitationsmedizin Kurortmedizin*, 27(4), e2.
<https://doi.org/10.1055/s-0043-119803>
- Shah, S., & Bhalara, A. (2012). Myofascial Release. *International Journal of Health Sciences and Research*, 2(2), 69.
- Stuber, K. J., Bruno, P., Sajko, S., & Hayden, J. A. (2014). Core stability exercises for low back pain in athletes: A systematic review of the literature. *Clinical Journal of Sport Medicine*, 24(6), 448–456.
<https://doi.org/10.1097/JSM.0000000000000081>
- Thomas, E., Cavallaro, A. R., Mani, D., Bianco, A., & Palma, A. (2019). The efficacy of muscle energy techniques in symptomatic and asymptomatic subjects: A systematic review. *Chiropractic and Manual Therapies*, 27(1). <https://doi.org/10.1186/s12998-019-0258-7>
- Tracy, L. M. (2017). Psychosocial factors and their influence on the experience of pain. *Pain Reports*, 2(4), 2–4.
<https://doi.org/10.1097/PR9.0000000000000602>
- Vijayan, V., & Pavithra, S. (2019). Effectiveness of Muscle Energy Technique Versus Stretching in Subjects With Piriformis Syndrome. *International Journal of Physiotherapy and Research*, 7(5), 3252–3256. <https://doi.org/10.16965/ijpr.2019.163>

Wong, A. Y., Karppinen, J., & Samartzis, D. (2017). Low back pain in older adults: risk factors, management options and future directions. *Scoliosis and Spinal Disorders*, 12(1), 1–23.
<https://doi.org/10.1186/s13013-017-0121-3>