

DAFTAR PUSTAKA

- Abd El-Rasol, Z.M. and Abd El Rahman, R.M. (2018) 'Effect Of Implementing Body Mechanics And Ergonomics Training Program On Nurses' Low Back Pain And Quality Of Nursing Work Life', *IOSR Journal of Nursing and Health Science*, 7(3), pp. 20–35. Available at: <https://doi.org/10.9790/1959-0703102035>.
- Abinaya, S. *et al.* (2023) 'A study on the effectiveness of william's flexion exercises on non-specific low back pain', *Biological Forum-An International Journal*, 15(4), pp. 9–12. Available at: <https://www.researchtrend.net/bfij/pdf/A-Study-on-the-Effectiveness-of-William's-Flexion-Exercises-on-Non-Specific-Low-Back-Pain-Abinaya-3.pdf>.
- Agustina, S. and Khiong, T.K. (2023) 'Low back pain ditinjau dari teori medis barat dan TCM. Jurnal Ilmiah STAB Nalanda, 2(4), 971–980.', 2(4), pp. 971–980.
- Alharbi, S.M. *et al.* (2021) 'Most common ergonomic injuries among healthcare workers', *International Journal Of Community Medicine And Public Health*, 8(11), p. 5494. Available at: <https://doi.org/10.18203/2394-6040.ijcmph20214086>.
- Almaghrabi, A. and Alsharif, F. (2021) 'Prevalence of low back pain and associated risk factors among nurses at king abdulaziz university hospital', *International Journal of Environmental Research and Public Health*, 18(4), pp. 1–11. Available at: <https://doi.org/10.3390/ijerph18041567>.
- Alonazi, O., Alshowkan, A. and Shdaifat, E. (2023) 'The relationship between psychological resilience and professional quality of life among mental health nurses: a cross-sectional study', *BMC Nursing*, 22(1), pp. 1–13. Available at: <https://doi.org/10.1186/s12912-023-01346-1>.
- Alonso-Sal, A. *et al.* (2024) 'Effectiveness of Physical Activity in the Management of Nonspecific Low Back Pain: A Systematic Review', *Medicina (Lithuania)*, 60(12), pp. 1–16. Available at: <https://doi.org/10.3390/medicina60122065>.
- American Industrial Hygiene Association (AIHA) (2024) *Safe Patient Handling and Mobility (SPHM): A Process to Protect Health Care Workers and Recipients*. Available at: https://www.aiha.org/education/white-papers/safe-patient-handling-and-mobility-sphm-a-process-to-protect-health-care-workers-and-recipients?utm_source=chatgpt.com.
- Amila, Syapitri, H. and Sembiring, E. (2021) 'The Effect of William Flexion Exercise on Reducing Pain Intensity For Elderly with Low Back Pain', *International Journal of Nursing and Health Services (IJNHS)*, 4(1), pp. 28–36. Available at: <https://ijnhs.net/index.php/ijnhs/article/view/374>.

- Anyelir, N.P. *et al.* (2024) ‘The Relationship Between Work Posture and Work Period with Musculoskeletal Disorders (MSDs) Complaints in Nurses in the Emergency Room (IGD) at Gambiran Hospital, Kediri City’, *Media Publikasi Promosi Kesehatan Indonesia*, 7(8), pp. 2208–2214. Available at: <https://doi.org/10.56338/mppki.v7i8.5766>.
- Ayane, D. *et al.* (2023) ‘Low Back Pain and Its Risk Factors Among Nurses Working in East Bale, Bale, and West Arsi Zone Government Hospitals, Oromia Region, South East Ethiopia, 2021 –Multicenter Cross-Sectional Study’, *Journal of Pain Research*, 16(August), pp. 3005–3017. Available at: <https://doi.org/10.2147/JPR.S410803>.
- AZ, R., Dayani, H. and Maulani, M. (2019) ‘Masa Kerja, Sikap Kerja Dan Jenis Kelamin Dengan Keluhan Nyeri Low Back Pain’, *REAL in Nursing Journal*, 2(2), p. 66. Available at: <https://doi.org/10.32883/rnj.v2i2.486>.
- Azevedo, N., Ribeiro, J.C. and Machado, L. (2022) ‘Balance and Posture in Children and Adolescents: A Cross-Sectional Study’, *Sensors*, 22(13), pp. 1–14. Available at: <https://doi.org/10.3390/s22134973>.
- Banga, D. *et al.* (2024) ‘Prevalence of low back pain and associated factors among nurses working in public hospitals of Hawassa city, southern Ethiopia: A cross-sectional study’, *Heliyon*, 10(9). Available at: <https://doi.org/10.1016/j.heliyon.2024.e30300>.
- Belinda, M. *et al.* (2022) ‘The Relationship Between Sitting Duration While Working in the Office With Complaints of Lower Back Pain in General Administration at Saiful Anwar Hospital Malang’, *Jurnal Sainatika Medika*, 18(2), pp. 92–99. Available at: <https://doi.org/10.22219/sm.vol18.smumm2.24118>.
- Bernardes, R.A. *et al.* (2023) ‘Foot and Ankle Disorders in Nurses Exposed to Prolonged Standing Environments: A Scoping Review’, *Workplace Health and Safety*, 71(3), pp. 101–116. Available at: <https://doi.org/10.1177/21650799221137646>.
- Budiman, I.A. (2020) ‘Pengaruh Model Pembelajaran Berbasis Lingkungan Terhadap Peningkatan Keseimbangan Dinamis Siswa Sekolah Dasar’, *Seminar Nasional Pendidikan*, pp. 933–942.
- Cahya S, A. *et al.* (2021) ‘Low Back Pain’, *Journal of Pain Headache and Vertigo*, 1, pp. 13–17. Available at: <https://doi.org/10.21776/ub.jphv.2021.002.01.4>.
- Carini, F. *et al.* (2017) ‘Posture and posturology, anatomical and physiological profiles: Overview and current state of art’, *Acta Biomedica*, 88(1), pp. 11–16. Available at: <https://doi.org/10.23750/abm.v88i1.5309>.
- Collier, E. (2016) ‘Encyclopedia of Evolutionary Psychological Science’,

Encyclopedia of Evolutionary Psychological Science, (July), pp. 1–4. Available at: <https://doi.org/10.1007/978-3-319-16999-6>.

Cusmari and Sanhaji (2023) ‘Hubungan Beban Kerja Terhadap Kejadian Low Back Pain Pada Perawat di Rumah Sakit Haji Jakarta’, *Jurnal Ilmiah Keperawatan (Scientific Journal of Nursing)*, 9(1), pp. 189–198. Available at: <https://doi.org/https://doi.org/10.33023/jikep.v9i3.1606>.

Czaprowski, D. *et al.* (2018) ‘Non-structural misalignments of body posture in the sagittal plane’, *Scoliosis and Spinal Disorders*, 13(6), pp. 1–14. Available at: <https://doi.org/10.1186/s13013-018-0151-5>.

Demir, O.B. and Yilmaz, F.T. (2024) ‘The effect of posture regulation training on musculoskeletal disorders, fatigue level and job performance in intensive care nurses’, *BMC Nursing*, 23(1). Available at: <https://doi.org/10.1186/s12912-024-02387-w>.

Dlungwane, T., Voce, A. and Knight, S. (2018) ‘Prevalence and factors associated with low back pain among nurses at a regional hospital in KwaZulu-Natal, South Africa’, *Health SA Gesondheid* 23(0), a1082, 23(0), pp. 1–6. Available at: <https://doi.org/https://doi.org/10.4102/hsag.v23i0.1082>.

Du, S.H. *et al.* (2023) ‘Spinal posture assessment and low back pain’, *EFORT Open Reviews*, 8(9), pp. 708–718. Available at: <https://doi.org/10.1530/EOR-23-0025>.

Fauzi, M.A., Luqman, F. and Siregar, R.K.A. (2023) ‘Actuating Dalam Al- Quran’, *Jurnal Pendidikan dan Konseling*, 5(1), pp. 5099–5106.

Favro, F. *et al.* (2025) ‘The Influence of Resistance Training on Joint Flexibility in Healthy Adults: A Systematic Review, Meta-analysis, and Meta-regression’, *Journal of Strength and Conditioning Research*, 39(3), pp. 386–397. Available at: <https://doi.org/10.1519/JSC.0000000000005000>.

Ferreira, M.L. *et al.* (2023) ‘Global, regional, and national burden of low back pain, 1990–2020, its attributable risk factors, and projections to 2050: a systematic analysis of the Global Burden of Disease Study 2021’, *The Lancet Rheumatology*, 5(6), pp. e316–e329. Available at: [https://doi.org/10.1016/S2665-9913\(23\)00098-X](https://doi.org/10.1016/S2665-9913(23)00098-X).

Fray, M. and Davis, K.G. (2024) ‘Effectiveness of Safe Patient Handling Equipment and Techniques: A Review of Biomechanical Studies’, *Human Factors*, 66(10), pp. 2283–2322. Available at: <https://doi.org/10.1177/00187208231211842>.

Fu, P. *et al.* (2023) ‘Relationship between spinal imbalance and knee osteoarthritis by using full-body EOS’, *BMC Musculoskeletal Disorders*, 24(1), pp. 1–11. Available at: <https://doi.org/10.1186/s12891-023-06508-5>.

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[www.upnvj.ac.id – www.library.upnvj.ac.id – www.repository.upnvj.ac.id]

- Fuchs, M. *et al.* (2018) 'Table tennis match analysis: a review', *Journal of Sports Sciences*, 36(23), pp. 2653–2662. Available at: <https://doi.org/10.1080/02640414.2018.1450073>.
- Gaowgzeh, R.A.M. (2019) 'Low back pain among nursing professionals in Jeddah, Saudi Arabia: Prevalence and risk factors', *Journal of Back and Musculoskeletal Rehabilitation*, 32(4), pp. 555–560. Available at: <https://doi.org/10.3233/BMR-181218>.
- Gilchrist, A. and Pokorná, A. (2021) 'Prevalence of musculoskeletal low back pain among registered nurses: Results of an online survey', *Journal of Clinical Nursing*, 30(11–12), pp. 1675–1683. Available at: <https://doi.org/10.1111/jocn.15722>.
- Gräf, J.K. *et al.* (2024) 'Differences in Nurses' Upper-Body Posture in Manual Patient Handling—A Qualitative Case Study', *Applied Sciences (Switzerland)*, 14(6). Available at: <https://doi.org/10.3390/app14062295>.
- Granel, N. *et al.* (2020) 'Nurses' perceptions of patient safety culture: A mixed-methods study', *BMC Health Services Research*, 20(1), pp. 1–9. Available at: <https://doi.org/10.1186/s12913-020-05441-w>.
- Greggi, C. *et al.* (2024) 'Work-Related Musculoskeletal Disorders: A Systematic Review and Meta-Analysis', *Journal of Clinical Medicine*, 13(13). Available at: <https://doi.org/10.3390/jcm13133964>.
- Halimah, N. *et al.* (2023) 'Pengaruh Kombinasi Pemberian Infrared Dan William Flexion Exercise Terhadap Peningkatan Fungsional Pada Pasien Nyeri Punggung Bawah', *Jurnal Keperawatan Muhammadiyah*, 8(2), p. 2023.
- Hanik, U. *et al.* (2024) 'Pengaruh Latihan Fleksi William Terhadap Tingkat Nyeri Punggung Bawah Pada Lansia Di Unit Pelayanan Terpadu Sosial Tresna Werdha Blitar Di Kabupaten Tulungagung', *Journal of Medical and Health Science*, 2(1), pp. 1–10. Available at: <https://doi.org/10.21070/anamnetic.v1i3.1594>.
- Hartanto, H., Hartono, B. and Margaret, T. (2022) 'Posisi dan Lama Duduk saat Bekerja dalam Menimbulkan Low Back Pain', *Jurnal MedScientiae*, 1(1), pp. 79–85. Available at: <https://doi.org/10.36452/jmedscie.vi.2541>.
- Harton, L. and Skemp, L. (2022) 'Medical–surgical nurse leaders' experiences with safety culture: An inductive qualitative descriptive study', *Journal of Nursing Management*, 30(7), pp. 2781–2790. Available at: <https://doi.org/10.1111/jonm.13775>.
- Hatsushikano, S. *et al.* (2025) 'Relationship between Health-Related Quality of Life and Sagittal Whole-Body Alignment, Standing Balance, and Skeletal Muscle Mass', *Spine Surgery and Related Research*, 9(4), pp. 416–425. Available at:

<https://doi.org/10.22603/ssrr.2024-0276>.

- Health and Safety Executive (2020) 'Work related musculoskeletal disorders in Great Britain (WRMSDs), 2019'.
- Higuchi, D., Takahashi, Y. and Tomita, Y. (2023) 'Effects of Slide Sheet Use and Bed Position on Muscle Activities in the Low Back and Extremities: A Pilot Experimental Simulation Study', *Workplace Health and Safety*, 71(10), pp. 491–498. Available at: <https://doi.org/10.1177/21650799231155626>.
- Hosseini, E. *et al.* (2022) 'Effect of a Developed Nursing Stretch Break Application on Work-Related Musculoskeletal Complications and Fatigue among Nurses: An Interventional Study', *Pain Research and Management*, 2022, p. 10. Available at: <https://doi.org/10.1155/2022/7870177>.
- Husnita, V.S., Agustina, M. and Wulandari, Y. (2024) 'Pengaruh William Flexion Exercise Terhadap Penurunan Tingkat Nyeri Punggung Bawah Pada Perawat di Ruang IGD dan ICU RSUD Raja Ahmad Tabib', *Jurnal Medika Malahayati*, 8(1), pp. 1–8. Available at: <https://doi.org/https://doi.org/10.33024/jmm.v8i1.12756>.
- Hutagalung, A.O. (2020) 'Pengendalian Resiko Ergonomi di Rumah Sakit', *Pengendalian Ergonomi*, 1(1), pp. 1–7. Available at: <https://osf.io/preprints/p2m6u/%0Ahttps://osf.io/p2m6u/download>.
- Hutahaean, S. *et al.* (2022) *Aplikasi Kepemimpinan dan Manajemen Keperawatan*. Salemba Empat.
- Isnena (2020) 'Penggunaan Non-Steroid Antiinflammatory Drug dan Potensi Interaksi Obatnya The Use of Non-Steroid Antiinflammatory Drugs and It ' s Drug-Drug Interaction on Musculoskeletal Patients', *Pharmaceutical Journal of Indonesia*, 6(1), pp. 47–55.
- Jehaman, I., Yanto, M.Y.D. and Tantangan, R. (2023) 'Pengaruh William Flexion Exercise dan Core Stability terhadap Nyeri pada Pasueb Low Back Pain', *Jurnal Keperawatan dan Fisioterapi (JKF)*, 5(2), p. 397. Available at: <https://ejournal.medistra.ac.id/index.php/JKF>.
- Kakirwar, S. and Lunawat, U. (2020) 'Review Article on Flexibility of Joints & Its Importance in Physical Fitness', *World Journal Of Pharmaceutical And Medical Research*, 6(2), pp. 60–62.
- Kaple, N. and Phansopkar, P. (2023) 'Effect of William flexion exercise and movement control exercise on pain, range of motion, muscle strength and functionality in non-specific low back pain: randomized controlled trial.', *F1000Research*, 12, p. 770. Available at: <https://doi.org/10.12688/f1000research.137087.1>.
- Kasih, B.A.T. (2023) 'Hubungan Usia, Beban Kerja, Posisi Tubuh, Dan Aktivitas

Rahma Wati Dewi, 2026

PENERAPAN EVIDENCE BASED NURSING WILLIAM FLEXION EXERCISE DALAM MENGURANGI NYERI PUNGGUNG BAWAH PADA PERAWAT DI RUANG RAWAT INAP RSUD PASAR MINGGU

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[www.upnvj.ac.id – www.library.upnvj.ac.id – www.repository.upnvj.ac.id]

- Fisik Terhadap Kejadian Low Back Pain Pada Perawat Pelaksana Di RS EMC Sentul Tahun 2023', *Jurnal Pengabdian Ilmu Kesehatan (JPIKes)*, 3(2), pp. 160–174. Available at: <https://doi.org/https://doi.org/10.55606/jpikes.v3i2.2229>.
- Kemenkes (2017) 'Peraturan Menteri Kesehatan Republik Indonesia Nomor 66 Tahun 2016 Tentang Keselamatan dan Kesehatan Kerja Rumah Sakit', (38), pp. 1–67.
- Kemenkes RI (2025) 'Nyeri Punggung Bawah'. Available at: <https://ayosehat.kemkes.go.id/topik-penyakit/kelainan-muskuloskeletal/nyeri-punggung-bawah>.
- Kgakge, K. *et al.* (2024) 'The distribution of work-related musculoskeletal disorders among nurses in sub-Saharan Africa: a scoping review', *Systematic Reviews*, 13(1). Available at: <https://doi.org/10.1186/s13643-024-02687-x>.
- Khairallah, G.M. *et al.* (2024) 'Barriers and Facilitators for the Use of Patient Lifts by Healthcare Workers: A Scoping Review', *International Journal of Environmental Research and Public Health*, 21(12), pp. 1–15. Available at: <https://doi.org/10.3390/ijerph21121659>.
- Khalil Abd-Elhameed, F. (2018) 'Occupational Health Program for Nurses to Reduce Musculoskeletal Injuries by Using Body Mechanics', *Egyptian Journal of Health Care*, 9(4), pp. 45–63.
- Kim, W.J. and Jeong, B.Y. (2024) 'Effects of Occupational Hazards, Musculoskeletal Pain, and Work on the Overall Fatigue, Anxiety, and Depression of Female Nurses', *Applied Sciences (Switzerland)*, 14(9), pp. 1–11. Available at: <https://doi.org/10.3390/app14093869>.
- Kozak, A., Freitag, S. and Nienhaus, A. (2017) 'Evaluation of a Training Program to Reduce Stressful Trunk Postures in the Nursing Professions: A Pilot Study', *Annals of Work Exposures and Health*, 61(1), pp. 22–32. Available at: <https://doi.org/10.1093/ANNWEH/WXW002>.
- Kugler, H.L., Taylor, N.F. and Brusco, N.K. (2024) 'Patient handling training interventions and musculoskeletal injuries in healthcare workers: Systematic review and meta-analysis', *Heliyon*, 10(3), p. e24937. Available at: <https://doi.org/10.1016/j.heliyon.2024.e24937>.
- Kurniawidjaja, L.M. *et al.* (2014) 'Pengendalian Risiko Ergonomi Kasus Low Back Pain pada Perawat di Rumah Sakit', *Majalah Kedokteran Bandung*, 46(4), pp. 225–233.
- Kusuma, H. and Setiowati, A. (2015) 'Pengaruh William Flexion Exercise terhadap Peningkatan Lingkup Gerak Sendi Penderita Low Back Pain', *Journal of Sport Sciences and Fitness*, 4(3), pp. 16–21. Available at:

Rahma Wati Dewi, 2026

PENERAPAN EVIDENCE BASED NURSING WILLIAM FLEXION EXERCISE DALAM MENGURANGI NYERI PUNGGUNG BAWAH PADA PERAWAT DI RUANG RAWAT INAP RSUD PASAR MINGGU

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[www.upnvj.ac.id – www.library.upnvj.ac.id – www.repository.upnvj.ac.id]

<http://journal.unnes.ac.id/sju/index.php/jssf>.

- Larson, R.E. *et al.* (2023) 'The influence of bed height as a percentage of participant height on low back forces when boosting a patient up in bed', *WORK: A Journal of Prevention, Assessment & Rehabilitation*, 75(4), pp. 1351–1359. Available at: <https://doi.org/https://doi.org/10.3233/WOR-220260>.
- Latifah, M., Citrawati, M. and Yusmaini, H. (2022) 'Hubungan posisi duduk dan lama duduk dengan low back pain pada pekerja sektor industri: Tinjauan sistematis', *In Seminar Nasional Riset Kedokteran*, 3(1).
- Lawan, A. *et al.* (2024) 'Is educational attainment associated with the onset and outcomes of low back pain? a systematic review and meta-analysis', *PLoS ONE*, 19(8 August), pp. 1–23. Available at: <https://doi.org/10.1371/journal.pone.0308625>.
- Lestari and Zulfikar, N. (2020) 'Pengaruh Latihan Fleksi William Terhadap Tingkat Nyeri Punggung Bawah Pada Perawat Pelaksana Di RSUD Haji Medan Tahun 2017', *Jurnal Mutiara Ners*, 3(1), pp. 37–42.
- Liu, Q. *et al.* (2023) 'Occupational low back pain prevention capacity of nurses in China: A multicenter cross-sectional study', *Frontiers in Public Health*, 11(1). Available at: <https://doi.org/10.3389/fpubh.2023.1103325>.
- Liza, Alimuddin and Syafrianto, D. (2023) 'Penanganan Low Back Pain Dengan Therapy Massage dan Exersice di Kenagarian Lasi', *Jurnal Pengabdian Masyarakat Olahraga dan Kesehatan*, 3(2), pp. 55–62.
- Lu, J. *et al.* (2024) 'Analysis of poor work postures during morning care operations of intensive care unit nurses: a field research', *BMC Nursing*, 23(1). Available at: <https://doi.org/10.1186/s12912-024-02417-7>.
- Masłoń, A., Kamińska, M. and Kvåle, A. (2024) 'Workload, General Perceived Stress, Body Function, Musculoskeletal Pain, and Their Mutual Relationships in Nurses – a Pilot Study', *International Journal of Occupational Medicine and Environmental Health*, 37(3), pp. 257–270. Available at: <https://doi.org/10.13075/ijomeh.1896.02389>.
- Mawo, F.H.M. and Dwiseli, F. (2025) 'Penerapan Kebijakan Sistem Manajemen Keselamatan Dan Kesehatan Kerja Rumah Sakit Di Indonesia : Literature Review', *Jurnal Kesehatan Tambusai*, 6(2), pp. 5699–5710. Available at: <https://doi.org/10.31004/jkt.v6i2.44014>.
- Maysaroh, I. *et al.* (2021) 'Penurunan Nyeri dengan Pemberian William Flexion Exercise pada Pasien Low Back Pain Myogenik di RSUD Mardi Waluyo Kota Blitar', *Jurnal Penelitian Kesehatan Suara Forikes*, 12, pp. 168–171. Available at: <https://doi.org/http://dx.doi.org/10.33846/sf.v12i0.1863>.
- Mohammadi, M. *et al.* (2019) 'The prevalence of low back pain among Iranian

Rahma Wati Dewi, 2026

PENERAPAN EVIDENCE BASED NURSING WILLIAM FLEXION EXERCISE DALAM MENGURANGI NYERI PUNGGUNG BAWAH PADA PERAWAT DI RUANG RAWAT INAP RSUD PASAR MINGGU

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- hospital nurses: A systematic review and meta-analysis', *Nursing and Midwifery Studies*, 8(1), pp. 1–6. Available at: https://doi.org/10.4103/nms.nms_46_18.
- Mokarami, H. *et al.* (2021) 'Development and validation of a Nurse Station Ergonomics Assessment (NSEA) tool', *BMC Nursing*, 20(83), pp. 1–12. Available at: <https://doi.org/10.1186/s12912-021-00600-8>.
- Muhammad, D. (2022) 'Implementasi fungsi actuating (penggerakan / pelaksanaan) dalam manajemen program bahasa Arab di MI Manarul Islam Malang', *Journal of Arabic Studies*, 2(1), pp. 13–32.
- Mukhtad, A.A. and Mohamed, H.A. (2018) 'Lower Back Pain among Health Care Workers in Operating Room at Al- Fateh Children's Hospital: Prevalence and Risk Factors', *Asian Journal of Research in Nursing and Health*, 1(1), pp. 1–11. Available at: <https://doi.org/10.9734/AJRNH/2018/43644>.
- Muraoka, M. *et al.* (2025) 'Quantitative assessment of muscle activity of back and lower extremities, whole body sagittal alignment, body sway, and health-related quality of life in adult spinal deformity patients before and after spinopelvic correction surgery: From the standpoint ', *Journal of Orthopaedic Science*, 30(1), pp. 58–65. Available at: <https://doi.org/10.1016/j.jos.2024.02.006>.
- Nadifatuzzahroh, N. *et al.* (2024) 'Hubungan Usia dan Masa Kerja terhadap Low Back Pain pada Nelayan Kampung Tengah Desa Banyusangka, Kabupaten Bangkalan', *Jurnal Ilmiah Kesehatan Masyarakat: Media Komunikasi Komunitas Kesehatan Masyarakat*, 16(2), pp. 56–62.
- Nalawade, N. and Kundnani, T. (2025) 'Knowledge and practice of use of correct body mechanics during patient care among hospital nurses', *Physiotherapy-The Journal of Indian Association of Physiotherapists*, pp. 10–4103. Available at: <https://doi.org/10.4103/pjiap.pjiap>.
- Naserian, E. *et al.* (2024) 'Relationship between mental workload and musculoskeletal disorders with intention to leave service among nurses working at neonatal and pediatric departments: a cross-sectional study in Iran', *BMC Nursing*, 23(1), pp. 1–11. Available at: <https://doi.org/10.1186/s12912-024-02112-7>.
- Nelvin, S.A. *et al.* (2021) 'The Effect of William Flexion Exercise on Low Back Pain in Farmers in Lembor District, West Manggarai Regency', *EAS Journal of Nursing and Midwifery*, 3(1), pp. 1–5. Available at: <https://doi.org/10.36349/easjnm.2021.v03i01.001>.
- Novitri, S. (2023) 'Asuhan Keperawatan Pada Ny. R Dengan Diagnosis Medis LBP (Low Back Pain) Di Ruang H1 RSPAL dr. Ramelan Surabaya'.
- Obeidat, B., Younis, M.B. and Al-Shloul, E. (2022) 'Investigations into the impact

- of nursing unit layout on critical care nurses’, *Heliyon*, 8(2), p. e08929. Available at: <https://doi.org/10.1016/j.heliyon.2022.e08929>.
- Osunde, N.R. *et al.* (2023) ‘Low Back Pain among Nurses as Related to Work Environment: A Cross-Sectional Observational Study’, *Current Medical Issues*, 21, pp. 9–13. Available at: https://doi.org/10.4103/cmi.cmi_46_22.
- Prayitno and Widiastuti, N. (2024) ‘Evaluasi Pelaksanaan Program Kesehatan Dan Keselamatan’, *Jurnal Riset Akuntansi dan Bisnis Indonesia STIE Widya Wiwaha*, 4(2), pp. 675–705.
- Purba, C.F. (2020) ‘Pengaruh Beban Kerja Perawat Terhadap Posisi Ergonomis’, *Jurnal Penelitian Perawat Profesional*, 6(3), pp. 312–322.
- Putri, N.P.A.M.S., Sena, I.G.A. and Daryono (2022) ‘Perbaikan Kemampuan Keseimbangan Dinamis dengan Core Stability Exercise pada Penari Hip Hop Ekstrakurikuler di SMA N 1 Sukawati’, *Pendidikan Kesehatan Rekreasi*, 8(1), pp. 119–126. Available at: <https://doi.org/10.5281/zenodo.5855112>.
- Quinn, T.D. *et al.* (2018) ‘Using trunk posture to monitor heat strain at work’, *Ergonomics*, 61(11), pp. 1560–1568. Available at: <https://doi.org/10.1080/00140139.2018.1497207>.
- Rahmawati, A. (2021) ‘Risk factor of low back pain’, *Jurnal Medika Hutama*, 3(1), pp. 1601–1607.
- Rahmawati, I. *et al.* (2022) ‘Metode William Fleksi pada Low Back Pain: Studi Literatur’, *Jurnal Keperawatan Klinis dan Komunitas*, 6(1), p. 13. Available at: <https://doi.org/10.22146/jkkk.63222>.
- Richarz, H.U. *et al.* (2023) ‘The impact of mechanical devices for lifting and transferring of patients on low back pain and musculoskeletal injuries in health care personnel—A systematic review and meta-analysis’, *Journal of Occupational Health*, 65(1), pp. 1–14. Available at: <https://doi.org/10.1002/1348-9585.12423>.
- Riyan, M., Sukpto, P. and Yogasara, T. (2023) ‘Work System Improvement to Increase Occupational Safety and Health (K3) and Productivity Through a Participatory Ergonomics Approach (Case Study at PT. Eka Karya Sinergi Bandung)’, *Jurnal Rekayasa Sistem Industri*, 12(2), pp. 237–250. Available at: <https://doi.org/https://doi.org/10.26593/jrsi.v12i2.6784.237-250> Jurnal.
- Rosdiana, I. and Wirastuti, K. (2024) ‘Edukasi Proper Body Mechanics Untuk Mengurangi Nyeri Pinggang’, *Indonesian Journal of Community Services*, 6(1), pp. 16–23. Available at: <https://doi.org/10.30659/ijocs.6.1.16-23>.
- Rudiana (2019) ‘Faktor yang Mempengaruhi Kejadian Low Back Pain pada Buruh angkat Angkut PT. Makassar Tene Tahun 2019. Universitas Hasanuddin’.

- Rusmianingsih, N. *et al.* (2024) *Buku Ajar Kepemimpinan Dan Manajemen, Buku Ajar Kepemimpinan Dan Manajemen Keperawatan*. Jakarta Barat: PT Nuansa Fajar Cemerlang Jakarta.
- Sahara, R. and Pristya, T.Y. (2020) ‘Faktor Risiko yang Berhubungan dengan Kejadian Low Back Pain (LBP) pada Pekerja: Literature Review’, *Jurnal Ilmiah Kesehatan*, 19(3), pp. 92–99. Available at: <https://doi.org/10.33221/jikes.v19i03.585>.
- Sari, D.C. *et al.* (2019a) ‘Edukasi Kasus Low Back Pain Myogenik Siswa Dengan Modalitas Infrared Dan William Flexion Exercise’, *Jurnal Pengabdian Masyarakat Multidisiplin*, 3(1), pp. 15–18. Available at: <https://doi.org/10.36341/jpm.v2i2.688>.
- Sari, D.C. *et al.* (2019b) ‘Edukasi Kasus Low Back Pain Myogenik Siswa Dengan Modalitas Infrared Dan William Flexion Exercise’, *Jurnal Pengabdian Masyarakat Multidisiplin*, 2(2), pp. 82–85. Available at: <https://doi.org/https://doi.org/10.36341/jpm.v2i2.688> 85.
- Sari, N.L.M.D.P., Prapti, N.K.G. and Sulistiowati, N.M.D. (2019) ‘Pengaruh Latihan Fleksi William Terhadap Skala Nyeri Punggung Bawah Pada Pengrajin Ukiran’, *Community of Publishing in Nursing (COPING)*, 7(2), pp. 67–74.
- Segita, R. (2020) ‘Analisis faktor resiko terjadinya low back pain di rumah sakit kota bukittinggi’, *Jurnal Endurance: Kajian Ilmiah Problema Kesehatan*, 5(3), pp. 624–635. Available at: <https://doi.org/http://doi.org/10.22216/jen.v5i3.4220>.
- Sethi, D., Kaur, J. and Anthony, J.W. (2020) ‘A study to assess the use of body mechanics practices among nursing students in selected colleges of nursing in Pune city’, *Indian Journal of Forensic Medicine and Toxicology*, 14(4), pp. 3586–3589. Available at: <https://doi.org/10.37506/ijfmt.v14i4.12185>.
- Shareef, M. *et al.* (2021) ‘Effectiveness Of William’s Flexion Exercises and Motor Control Exercises on Pain and Function in Subjects with Non-Specific Low Back Pain Among Student Population’, *International Journal of Medical Science and Current Research (IJMSCR)*, 4(4), pp. 350–360.
- Shiri, R. *et al.* (2019) ‘Risk factors for low back pain: A population-based longitudinal’, *Arthritis care & research*, 71(2), pp. 290–299. Available at: <https://doi.org/10.1002/acr.23710>.
- Shiri, R., Coggon, D. and Falah-Hassani, K. (2018) ‘Exercise for the Prevention of Low Back Pain: Systematic Review and Meta-Analysis of Controlled Trials’, *American Journal of Epidemiology*, 187(5), pp. 1093–1101. Available at: <https://doi.org/10.1093/aje/kwx337>.

- Shukla, B.B. *et al.* (2023) ‘Original Article Comparative evaluation of visual analogue scale and pupillary diameter for post-operative pain: An observational study’, *Indian Journal of Anaesthesia*, 67, pp. S93-8. Available at: https://doi.org/10.4103/ija.ija_1045_21.
- da Silva, T.P.D. *et al.* (2018) ‘Musculoskeletal discomfort, work ability and fatigue in nursing professionals working in a hospital environment’, *Revista da Escola de Enfermagem*, 52, pp. 1–8. Available at: <https://doi.org/10.1590/S1980-220X2017022903332>.
- Suharto and Yusup, A.M. (2024) ‘Tinjauan Penerapan Aspek Ergonomi Pada Ruang Penyimpanan Berkas Rekam Medis Di Rumah Sakit Bhayangkara Tk . li Sartika Asih Bandung’, 18(2), pp. 149–154. Available at: <https://doi.org/https://dx.doi.org/10.70428/tedc.v18i2.837>.
- Sukmajaya, W.P. *et al.* (2020) ‘Williams Flexion Exercise for Low Back Pain’, *Open Access Macedonian Journal of Medical Sciences*, 8(B), pp. 1–5.
- Sumampouw, O.J. and Joseph, G. (2022) ‘Hubungan antara posisi kerja dan usia dengan keluhan muskuloskeletal pada nelayan’, *Health Care: Jurnal Kesehatan*, 11(1), pp. 34–42.
- Sun, W. *et al.* (2023) ‘Prevalence of Work-Related Musculoskeletal Disorders among Nurses: A Meta-Analysis’, *Iranian Journal of Public Health*, 52(3), pp. 463–475. Available at: <https://doi.org/10.18502/ijph.v52i3.12130>.
- Suriawan, N.N.I.M., Pramita, I. and Parwata, I.M.Y. (2023) ‘Pengaruh Latihan Modifikasi Hatha Yoga terhadap Fleksibilitas Lumbal pada Anak Usia 9-12 tahun di SD Negeri 2 Marga Tabanan’, *Jurnal Pendidikan Kesehatan Rekreasi*, 9(1), pp. 139–149.
- Suwartini, L.G., Tirtayasa, K. and Handari Adiputra, L.M.I.S. (2020) ‘The Improvement of Working Posture and Ergonomic Workplace Stretching Decreased Musculoskeletal Complaint and Fatigue and Increased Productivity of Nurses’, *Jurnal Ergonomi Indonesia (The Indonesian Journal of Ergonomic)*, 6(2), pp. 105–112. Available at: <https://doi.org/10.24843/jei.2020.v06.i02.p04>.
- Tamonob, G.N.A., Mandaru, S.S.E. and Letuna, M.A.N. (2023) ‘Komunikasi Terapeutik dalam Penanganan Pasien dengan Gangguan Kejiwaan (Studi Kasus pada RSJ Naimata)’, *Jurnal Mahasiswa Komunikasi*, 3(1), pp. 36–51.
- Tariq, R.A. *et al.* (2023) *Back Safety*. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan–PMID: 30085608.
- Taştan, Z. *et al.* (2025) ‘The effects of reformer pilates on postural alignment, body appreciation and social appearance anxiety in office workers’, *BMC Sports*

- Science, Medicine and Rehabilitation*, 17(1), pp. 2–9. Available at: <https://doi.org/https://doi.org/10.1186/s13102-025-01338-5>.
- Tonda, W., Lestari, H. and Rezal, F. (2025) ‘Hubungan posisi kerja, lama kerja, dan beban kerja dengan keluhan’, *Journal of Health Science Leksia (JHSL)*, 3(3).
- Traeger, A., Qaseem, A. and McAuley, J. (2021) ‘Low Back Pain’, *JAMA*, 326(3), p. 286. Available at: <https://doi.org/10.1001/jama.2020.19715>.
- Tuna, R., Eskin Bacaksiz, F. and Kahraman, B. (2022) ‘The Relationship Between Musculoskeletal Discomfort and Professional Quality of Life Among Nurses’, *Pain Management Nursing*, 23(1), pp. 62–67. Available at: <https://doi.org/10.1016/j.pmn.2021.03.006>.
- Vanti, C. *et al.* (2019) ‘The effectiveness of walking versus exercise on pain and function in chronic low back pain: a systematic review and meta-analysis of randomized trials’, *Disability and Rehabilitation*, 41(6), pp. 622–632. Available at: <https://doi.org/10.1080/09638288.2017.1410730>.
- Vinstrup, J., Jakobsen, M.D. and Andersen, L.L. (2020) ‘Poor sleep is a risk factor for low-back pain among healthcare workers: Prospective cohort study’, *International Journal of Environmental Research and Public Health*, 17(3). Available at: <https://doi.org/10.3390/ijerph17030996>.
- Wahab, A. (2019) ‘Faktor-Faktor Yang Berhubungan Dengan Keluhan Nyeri Punggung Bawah (Low Back Pain) Pada Nelayan Di Desa Batu Karas Kecamatan Cijulang Pangandaran’, *Biomedika*, 11(1), p. 35. Available at: <https://doi.org/10.23917/biomedika.v11i1.7599>.
- Wang, H. *et al.* (2022) ‘Coping with job stress for hospital nurses during the COVID-19 crisis: The joint roles of micro-breaks and psychological detachment’, *Journal of Nursing Management*, 30(7), pp. 2116–2125. Available at: <https://doi.org/10.1111/jonm.13431>.
- Wardianti, D. and Wahyuni, W. (2021) ‘Physiotherapy Management Of William Flexion Exercise For Pain Reduction In Low Back Pain Myogenic: Case Study’, *Academic Physiotherapy Conference*, pp. 793–798.
- Widiastanto, E., Puspitaningsih, D. and Mawaddah, N. (2024) ‘Workplace Stretching Exercise Menurunkan Kelelahan Kerja Perawat Di Rs Radjiman Wediodiningrat Lawang’, *Jurnal Kesehatan Tambusai*, 5(2), pp. 5611–5618.
- Widiyanto, B. *et al.* (2024) *BUKU AJAR KOMUNIKASI TERAPEUTIK*. Jakarta Barat: PT Nuansa Fajar Cemerlang Jakarta.
- Wulandari, E.N. and Wulandari, R. (2024) ‘Penerapan Latihan William Flexion pada Petani dengan Low Back Pain di Desa Pringanom Kabupaten Sragen’, *Jurnal Ilmu Kesehatan*, 1(3), pp. 139–151. Available at:

<https://doi.org/https://doi.org/10.62383/quwell.v1i3.744>.

- Xia, M. and Guo, S. (2021) 'A Novel Evaluation Method of Static Balance Ability Based on Human Pelvic Center Measurement', *Journal of Healthcare Engineering*, 2021. Available at: <https://doi.org/10.1155/2021/6637963>.
- Yeşil, B. (2024) 'Posture and Its Influence on Anatomical Structures: A Comprehensive Review', *Medical Science and Discovery*, 11(11), pp. 330–337. Available at: <https://doi.org/10.36472/msd.v11i11.1219>.
- Yudiyanta, Khoirunnisa, N. and Novitasari, R.W. (2015) 'Assessment Nyeri', *Patient Comfort Assessment Guide*, 42(3), pp. 214–234.
- Yulisti, S. *et al.* (2024) 'Analisis Faktor Yang Mempengaruhi Keluhan Nyeri Punggung Bawah Pada Perawat Di Rs. Bhayangkara Tk. Iii Kendari', *Jurnal Penelitian Kedokteran Dan Kesehatan*, 5(3), pp. 332–339. Available at: <https://jurnal.fkunisa.ac.id/index.php/MA/article/download/170/155/>.
- Yundari, A.. I.D.H. and Mas, P.P.W. (2018) 'Effectivness Of William Flexion Exercise To Reduce Pain Intensity On Low Back Pain (LBP) Of Woodcarvers In Bali, Indonesia', *In Proceedings of International Conference on Applied Science and Health*, 456(3), pp. 305–311.
- Zemková, E. and Zapletalová, L. (2022) 'The Role of Neuromuscular Control of Postural and Core Stability in Functional Movement and Athlete Performance', *Frontiers in Physiology*, 13(February), pp. 1–21. Available at: <https://doi.org/10.3389/fphys.2022.796097>.