DAFTAR PUSTAKA

[1] A. Hua, G. Wang, J. Bai, Z. Hao, J. Liu, J. Meng, dan J. Wang, "Nonlinear dynamics of postural control system under visual-vestibular habituation balance practice: evidence from EEG, EMG and center of pressure signals," *Front. Hum. Neurosci.*, vol. 18, p. 1371648, 2024.

[2] E. Roberts, A. Bronstein, dan B. Seemungal, "Visual-vestibular interaction: basic science to clinical relevance," *Adv. Clin. Rehabil. Neurosci.*, 2013.

[3] K. Horiuchi, K. Imanaka, dan M. Ishihara, "Postural sway in the moving room scenario: New evidence for functional dissociation between self-motion perception and postural control," *PLOS ONE*, vol. 16, no. 9, p. e0257212, 2021.

[4] S. Rampichini, T. M. Vieira, P. Castiglioni, dan G. Merati, "Complexity analysis of surface electromyography for assessing the myoelectric manifestation of muscle fatigue: A review," *Entropy (Basel)*, vol. 22, no. 5, p. 529, May 2020.

[5] K. O. Appiah-Kubi *et al.*, "Concurrent vestibular activation and postural training recalibrate somatosensory, vestibular and gaze stabilization processes," *Front. Aging Neurosci.*, 2022. [Online]. Available

[6] A. D. Pratama dan A. A. Furqonah, "Efektivitas Balance Exercise dan Gait Training dalam Meningkatkan Keseimbangan dan Kecepatan Berjalan pada Kasus Stroke Iskemik," *Indonesian Journal of Physiotherapy*, vol. 5, no. 1, hlm. 32–36, 2017.

[7] World Health Organization, "Falls," World Health Organization, Apr. 2021. [Online]. Available: https://www.who.int/news-room/fact-sheets/detail/falls. [Diakses: 24-Okt-2024].

[8] Data Indonesia, "Persentase Penduduk Lansia di Indonesia Menurun pada 2022," Des. 2022. [Online]. Available: https://dataindonesia.id/varia/detail/persentase-penduduk-lansia-di-indonesia-menurun-pada-2022. [Diakses: 24-Okt-2024].

[9] O. O. Adeloye, "Evaluation of human body balance: a review of clinical and simple field tests of balance," *J. Brain Neurol. Disord.*, vol. 5, no. 1, 2022.

[10] T. Haslwanter, *VestibularSystem la.png*, Wikimedia Commons, Oct. 5, 2011. Creative Commons Attribution-Share Alike 3.0. [Online]. Available: https://commons.wikimedia.org/wiki/File:VestibularSystem_la.png. [Accessed:24-Okt-2024].

[11] H. Morita, H. Kaji, Y. Ueta *et al.*, "Understanding vestibular-related physiological functions could provide clues on adapting to a new gravitational environment," *J. Physiol. Sci.*, vol. 70, p. 17, 2020.

[12] M. Perello Nieto, *Human visual pathway.svg*, Wikimedia Commons, Jan. 15, 2015. Creative Commons Attribution-Share Alike 4.0. [Online]. Available: https://commons.wikimedia.org/wiki/File:Human_visual_pathway.svg. [Accessed: 26-Okt-2024].

[13] Y. Ma, X. Zhang, W. Chen, dan Y. Li, "Effects of real-time visual feedback on balance training in healthy adults: A systematic review," *Int. J. Environ. Res. Public Health*, vol. 18, no. 18, p. 9637, Sep. 2021

[14] J. M. Wood, C. Killingly, D. B. Elliott, K. J. Anstey, dan A. A. Black, "Visual predictors of postural sway in older adults," *Transl. Vis. Sci. Technol.*, vol. 11, no. 8, p. 24, 2022.

[15] J. C. Tuthill dan E. Azim, "Proprioception," *Curr. Biol.*, vol. 28, no. 5, hlm. R194–R203, Mar. 2018.

[16] M. Horak and J. M. Macpherson, "Postural Orientation and Equilibrium," in *Comprehensive Physiology*, J. R. Pfaff, Ed. Wiley, 2011, pp. 255–292. Available: https://www.researchgate.net/figure/The-sketch-of-the-flow-of-signals-and-major-brain-parts-participating-in-the-control-of_fig3_318694425

[17] S. Hillier, M. Immink, dan D. Thewlis, "Assessing proprioception: A systematic review of possibilities," *Neurorehabil. Neural Repair*, vol. 29, no. 10, hlm. 933–949, 2015.

[18] E. R. Ferrè, L. E. Walther, dan P. Haggard, "Multisensory interactions between vestibular, visual and somatosensory signals," *PLoS ONE*, vol. 10, no. 4, p. e0124573, 2015.

[19] R. Steindl, K. Kunz, A. Schrott-Fischer, dan A. W. Scholtz, “Effect of age and sex on maturation of sensory systems and balance control,” *Dev. Med. Child Neurol.*, vol. 48, no. 6, hlm. 477–482, Jun. 2006.

[20] M. Salsali, R. Sheikhhoseini, P. Sayyadi et al., “Association between physical activity and body posture: a systematic review and meta-analysis,” BMC Public Health, vol. 23, p. 1670, 2023.

[21] Y. Choi, D. Kim, dan S. K. Kim, “Effects of physical activity on body composition, muscle strength, and physical function in old age: bibliometric and meta-analyses,” Healthcare, vol. 12, no. 2, p. 197, 2024.

[22] Dev, A., Joshi, D., & Singh, N. (2021). Impact of low luminance environments on postural control among elderly with visual impairments. *Gait & Posture*, 89, 146–152.

[23] S. Carey, D. Abney, J. M. Ross, dan R. Balasubramaniam, “High-intensity sensory stimulation reduces postural sway variability in healthy young adults,” *Sci. Rep.*, vol. 14, p. 61186, 2024.

[24] G. d. A. Batista, S. P. Beltrán, M. H. P. d. Passos, L. B. Calixtre, L. R. d. H. Santos, dan R. C. de Araújo, “Comparison of the electromyography activity during exercises with stable and unstable surfaces: a systematic review and meta-analysis,” *Sports*, vol. 12, no. 4, p. 111, 2024.

[25] H. Abbasi, M. H. Alizadeh, R. Rajabi, dan F. Mohammadi, “Comparison of static and dynamic postural stability between individuals with and without forward head posture,” *PTJ*, vol. 10, no. 3, hlm. 127–134, 2020.

[26] A. Promsri, P. Pitiwattanakulchai, S. Saodan, dan S. Thiwan, “Age-related changes in postural stability in response to varying surface instability in young and middle-aged adults,” *Sensors*, vol. 24, no. 21, p. 6846, 2024.

[27] K. Thomas dan J. Peeler, “A detailed anatomical description of the gastrocnemius muscle—Is it anatomically positioned to function as an antagonist to the anterior cruciate ligament?,” *Anatomia*, vol. 3, no. 4, hlm. 244–255, Oct. 2024.

[28] Database Center for Life Science (DBCLS), *Gastrocnemius muscle - posterior view.png*, Wikimedia Commons, Mar. 31, 2020. Creative Commons Attribution-Share Alike 2.1 Japan. [Online]. Available: https://commons.wikimedia.org/wiki/File:Gastrocnemius_muscle_-_posterior_view.png. [Accessed: 26-Okt-2024].

[29] K. R. Mills, "The basics of electromyography," *J. Neurol. Neurosurg. Psychiatry*, vol. 76, suppl. 2, hlm. ii32–ii35, Jun. 2005.

[30] R. H. Chowdhury, M. B. I. Reaz, M. A. B. M. Ali, A. A. A. Bakar, K. Chellappan, dan T. G. Chang, "Surface electromyography signal processing and classification techniques," *Sensors*, vol. 13, no. 9, hlm. 12431–12466, 2013.

[31] F. Vieira, J. Gonçalves, dan L. Machado, "Surface electromyography: limitations and challenges in applied neuroscience," *Front. Neurol.*, vol. 11, art. 578504, 2020.

[32] H. Luo, X. Wang, M. Fan, L. Deng, C. Jian, M. Wei, and J. Luo, "The effect of visual stimuli on stability and complexity of postural control," Front. Neurol., vol. 9, p. 48, 2018.

[33] R. Merletti and S. Muceli, "High-density surface electromyography: Current status and future perspectives," *IEEE Rev. Biomed. Eng.*, vol. 14, pp. 98–111, 2021, doi: 10.1109/RBME.2021.3057771.

[32] Merletti, R., & Holobar, A. (2021). Surface EMG: Methods for noninvasive assessment of muscle function. *Biomedical Signal Processing and Control*, 68, 102595.

[33] Vieira, T. M. M., & Botter, A. (2021). The accurate assessment of muscle fatigue using surface EMG and frequency analysis: From basic concepts to practical considerations. *Journal of Electromyography and Kinesiology*, 58, 102546.

[34] Phinyomark, A., et al. (2020). Preprocessing and feature extraction for myoelectric control: A review. *Biomedical Signal Processing and Control*, 57, 101791.

[35] Reggi, L., Comotti, D., & Parati, G. (2021). *Validation of a wearable inertial measurement unit for postural sway assessment in healthy older adults*. Sensors, 21(1), 1–14.

[36] Saadat, M., & Karimi, M. T. (2023). *Evaluation of low-cost IMU sensors in monitoring postural balance in dynamic environments*. Biomedical Engineering Letters, 13, 55–64.

[37] Yeong, C. H., Chan, C. Y., & Tan, W. K. (2024). A review of wearable sensor-based postural sway and muscle activity assessment for balance analysis. *Sensors*, 24(5), 1834.

[38] Anwer, S., et al. (2022). *Gyroscope-based analysis of postural sway for balance assessment: A reliability and validity study*. Sensors, 22(3), 1256.

[39] Tang, F., Zhang, K., Liu, B., & Chen, G. (2023). Trunk-worn inertial sensors for balance assessment: A systematic review on validation and application. *Gait & Posture*, *106*, 102988.

[40] Raffi, M., Trofè, A., Meoni, A., & Piras, A. (2022). The Speed of Optic Flow Stimuli Influences Body Sway. *International journal of environmental research and public health*, *19*(17), 10796.

[41] Raffi, M., Trofè, A., Meoni, A., & Piras, A. (2022). The Speed of Optic Flow Stimuli Influences Body Sway. *International journal of environmental research and public health*, *19*(17), 10796.

[42] A. Akgül et al., "Investigation of active channels in multi-channel surface arm EMG recordings for 24 different movements," in 2014 18th National Biomedical Engineering Meeting, Istanbul, Turkey, 2014.

[43] Alderink, G., McCrumb, D., Zeitler, D., & Rhodes, S. (2025). Analysis of Connectivity in Electromyography Signals to Examine Neural Correlations in the Activation of Lower Leg Muscles for Postural Stability: A Pilot Study. *Bioengineering*, *12*(1), 84.

[44] Ding, H., Yang, Z., Wang, Z. *et al.* MEMS gyroscope control system using a band pass continuous-time sigma-delta modulator. *Sci. China Inf. Sci.* **56**, 1–10 (2013). https://doi.org/10.1007/s11432-012-4670-z

[45] R. Martinez-Mendez, M. Sekine, and T. Tamura, "Postural sway parameters using a triaxial accelerometer: Comparing elderly and young healthy adults," Comput. Methods Biomech. Biomed. Engin., vol. 15, no. 9, pp. 899–910, 2012.

[46] Bioengineering Editorial Office, "Acknowledgement to reviewers of Bioengineering in 2018," Bioengineering, vol. 6, no. 1, p. 6, 2019.

[47] A. Fathtabar, A. Ebrahimzadeh, and J. Kazemitabar, "Center of gravity (CoG): A novel optimization algorithm," Evol. Intel., vol. 17, pp. 2245–2278, 2024.

[48] Kongsawasdi, S., Bunjan, P., Wongjak, M., & Wantanajittikul, K. (2025). Evaluating postural sway in the elderly using inertial measurement units: A study on center of mass measurements via accelerometers and gyroscopes. Sensors, 25(4), 1152–1164.

[49] De Lima, A. L. L., et al. (2020). A smartphone-based system for the assessment of balance in Parkinson's disease using correlation with clinical scores. Journal of NeuroEngineering and Rehabilitation, 17(1), 106. https://doi.org/10.1186/s12984-020-00710-1