

DAFTAR PUSTAKA

- [1] Q. Xu *et al.*, “Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19 . The COVID-19 resource centre is hosted on Elsevier Connect , the company ’ s public news and information ,” no. January, 2020.
- [2] J. Hutchinson, “On the Capacity of the Lungs, and on the Respiratory Functions, with a View of Establishing a Precise and Easy Method of Detecting Disease by the Spirometer,” *J R Soc Med*, vol. MCT-29, no. 1, pp. 137–252, 1846, doi: 10.1177/095952874602900113.
- [3] R. E. Yuwana, S. Luthfiyah, and H. G. Ariswati, “Design and Development of an IoT-based Pulmonary Function and Oxygen Saturation Measurement Device (Pulmonary Function Analysis),” vol. 16, no. 1, pp. 7–13, 2023.
- [4] N. E. Budiyanta, M. C. Wishnu, D. R. W, and L. Lukas, “Perancangan Fidget Device Berbasis Internet Of Things,” *TESLA: Jurnal Teknik Elektro*, vol. 21, no. 1, p. 1, 2019, doi: 10.24912/tesla.v21i1.3241.

- [5] Rachmawati, “REVIEW ARTIKEL: PENYAKIT PARU OBSTRUKTIF KRONIK (PPOK) Afina,” *Farmaka*, vol. 18, no. 1, pp. 1–15, 2020.
- [6] A. Napanggala, “Penyakit Paru Obstruktif Kronis (PPOK) dengan Efusi Pleura dan Hipertensi Tingkat I,” *Medula Unila*, vol. 4, no. 1, pp. 1–6, 2019.
- [7] N. Shavira, H. G. Ariswati, and T. Hamzah, “DESIGN AND DEVELOPMENT OF IOT-BASED LUNG FUNCTION AND OXYGEN SATURATION MEASURING DEVICE (OXYGEN SATURATION ANALYSIS),” vol. 3, no. 4, 2021.
- [8] U. Hidayati, *Pengaruh Efek Samping Pemberian Terapi Antiretroviral Terhadap Kepatuhanterapi Antiretroviral Pada Pasien Hiv/Aidsdi*, vol. 1, no. 1. 2015. [Online]. Available:
http://eprints.undip.ac.id/46653/1/PROCEEDING_SEMI_LNASKEP_UNDIP_2015_.pdf#page=241
- [9] F. Naser, I. Medison, and Erly, “Artikel Penelitian Gambaran Derajat Merokok Pada Penderita PPOK di Bagian,” *Jurnal Kesehatan Andalas*, vol. 5, no. 2, pp. 306–311, 2013.

- [10] T. Zhang, H. Keller, M. J. O'Brien, T. R. Mackie, and B. Paliwal, "Application of the spirometer in respiratory gated radiotherapy," *Med Phys*, vol. 30, no. 12, pp. 3165–3171, 2003, doi: 10.1118/1.1625439.
- [11] H. Kapasitas, A. Maksimal, V. O. Max, D. A. N. Kapasitas, and F. Fahmi, "VITAL PARU DENGAN DENYUT NADI PEMULIHAN PADA ATLET PUTRA KLUB BOLA BASKET UNIVERSITAS NEGERI JAKARTA PENDAHULUAN Olahraga bertujuan untuk memperbaiki kondisi fisik , mengurangi pemberian memperbaiki emosi , mempertahankan kebugaran seseorang . Dizaman yan," pp. 30–36.
- [12] L. M. Li Kharis, A. Pudji, and P. C. Nugraha, "Development Portable Spirometer using MPXV7002DP Sensor and TFT Display for Lung Disease Detection.," *Indonesian Journal of electronics, electromedical engineering, and medical informatics*, vol. 2, no. 3, pp. 122–129, 2020, doi: 10.35882/ijeeemi.v2i3.3.
- [13] R. Rismalah, S. Rohimah, and Y. Ginanjar, "Literatur Review Pengaruh Teknik Pursed Lips Breathing (Plb) Terhadap Peningkatan Saturasi Oksigen Pada Pasien

Paru Obstruktif Kronik (Ppok)," *Jurnal Mahasiswa Keperawatan Galuh*, vol. 1, no. 1, pp. 21–29, 2022, [Online]. Available: <https://ojs.unigal.ac.id/index.php/juwara/article/view/285>

- [14] Lia andriani, Priyambada Cahya Nugraha, and Sari Lutfiah, "Portable Spirometer for Measuring Lung Function Health (FVC and FEV1)," *Journal of Electronics, Electromedical Engineering, and Medical Informatics*, vol. 1, no. 1, pp. 16–20, 2019, doi: 10.35882/jeeemi.v1i1.4.
- [15] J. O. W. Agisty Eclesia Tatilu, Sherwin Sompie, "Perancangan Alat Monitoring Detak Jantung dan Saturasi Oksigen Berbasis IOT Menggunakan Platform Blynk," *UNSRAT Repository*, pp. 1–14, 2022.
- [16] M. Devices, "Ihermistor," pp. 229–235, 2004.
- [17] H. L. Lujan and S. E. DiCarlo, "Science reflects history as society influences science: Brief history of 'race,' 'race correction,' and the spirometer," *Advances in Physiology Education*, vol. 42, no. 2. pp. 163–165, 2018. doi: 10.1152/advan.00196.2017.

- [18] M. J. Warnier, F. H. Rutten, A. De Boer, A. W. Hoes, and M. L. De Bruin, “Resting heart rate is a risk factor for mortality in chronic obstructive pulmonary disease, but not for exacerbations or pneumonia,” *PLoS One*, vol. 9, no. 8, 2014, doi: 10.1371/journal.pone.0105152.
- [19] P. Faverio *et al.*, “Molecular pathways and respiratory involvement in lysosomal storage diseases,” *Int J Mol Sci*, vol. 20, no. 2, pp. 1–20, 2019, doi: 10.3390/ijms20020327.
- [20] M. J. Warnier, F. H. Rutten, A. De Boer, A. W. Hoes, and M. L. De Bruin, “Resting heart rate is a risk factor for mortality in chronic obstructive pulmonary disease, but not for exacerbations or pneumonia,” *PLoS One*, vol. 9, no. 8, 2014, doi: 10.1371/journal.pone.0105152.
- [21] L. P. Lindayani, Tedjamartono, and T. Dharma, “Praktik Belajar Lapangan Penyakit Paru Obstruktif Kronik (PPOK),” *Pedoman Diagnosis & Penatalaksanaan Di Indonesia*, no. 1302006137, p. 32, 2017, [Online]. Available:
<http://erepo.unud.ac.id/id/eprint/18781/1/ea91ca43e8db520c8a1e16ebf600f7e5.pdf>

- [22] L. BERNSTEIN, J. L. D'SILVA, and D. MENDEL, “The effect of the rate of breathing on the maximum breathing capacity determined with a new spirometer.,” *Thorax*, vol. 7, no. 3, pp. 255–262, 1952, doi: 10.1136/thx.7.3.255.
- [23] R. M. Cherniack and M. B. Raber, “Normal standards for ventilatory function using an automated wedge spirometer.,” *Am Rev Respir Dis*, vol. 106, no. 1, pp. 38–46, 1972, doi: 10.1164/arrd.1972.106.1.38.
- [24] R. Alejos-Palomares, J. M. Ramírez Cortes, and N. Domínguez-Martinez, “Digital spirometer with LabView interface,” *Proceedings - 18th International Conference on Electronics, Communications and Computers, CONIELECOMP 2008*, pp. 105–110, 2008, doi: 10.1109/CONIELECOMP.2008.31.
- [25] E. F. FIRMANSYAH, “Rancang Bangun Alat Pengujian Continuous Positive Airway Pressure (CPAP),” 2022.
- [26] A. C. Bento, “An Experimental Survey with NodeMCU12e+Shield with Tft Nextion and MAX30102 Sensor,” *11th Annual IEEE Information Technology, Electronics and Mobile Communication Conference*,

IEMCON 2020, pp. 82–86, 2020, doi: 10.1109/IEMCON51383.2020.9284870.

- [27] H. L. Lujan and S. E. DiCarlo, “Science reflects history as society influences science: Brief history of ‘race,’ ‘race correction,’ and the spirometer,” *Adv Physiol Educ*, vol. 42, no. 2, pp. 163–165, 2018, doi: 10.1152/advan.00196.2017.
- [28] N. A. Khasan, T. Rustiadi, and M. Annas, “Korelasi Denyut Nadi Istirahat dan Kapasitas Vital Paru Terhadap Kapasitas Aerobik,” *Journal of Physical Education , Sport , Health and Recreations*, vol. 2, no. 3, pp. 162–164, 2013.
- [29] K. M. Mortimer, A. Fallot, J. R. Balmes, and I. B. Tager, “Evaluating the use of a portable spirometer in a study of pediatric asthma,” *Chest*, vol. 123, no. 6, pp. 1899–1907, 2003, doi: 10.1378/chest.123.6.1899.
- [30] R. Ristanto and A. Zakaria, “Hubungan Respiratory Rate (RR) Dan Oxygen Saturation (SPO2) Pada Klien Cedera Kepala,” *Jurnal Kesehatan Hesti Wira Sakti*, vol. 5, no. 2, pp. 85–90, 2018, [Online]. Available:

[http://jurnal.poltekkes-
soepraoen.ac.id/index.php/HWS/article/view/206/100](http://jurnal.poltekkes-soepraoen.ac.id/index.php/HWS/article/view/206/100)

- [31] M. L. Vold, U. Aasebø, A. Hjalmarsen, and H. Melbye, “Predictors of oxygen saturation $\leq 95\%$ in a cross-sectional population based survey,” *Respir Med*, vol. 106, no. 11, pp. 1551–1558, 2012, doi: 10.1016/j.rmed.2012.06.016.
- [32] S. Ramandita, “Rancang Bangun Spirometer Berbasis Komputer Untuk Pengukuran Volume Cadangan Inspirasi, Ekspirasi, dan Kapasitas Vital Paru,” vol. C, 2016.