

DAFTAR PUSTAKA

1. UNICEF. Pneumonia [Internet]. UNICEF Data2024 [cited 2025 Mar 16];Available from: <https://data.unicef.org/topic/child-health/pneumonia/>
2. WHO. Pneumonia in Children [Internet]. 2022 [cited 2025 Jan 28];Available from: <https://www.who.int/news-room/fact-sheets/detail/pneumonia>
3. UNICEF. Under Five Mortality [Internet]. UNICEF Data2024 [cited 2025 Mar 16];Available from: <https://data.unicef.org/topic/child-survival/under-five-mortality/>
4. International Vaccine Acces Center. Pneumonia dan Diarrhea Progress Report 2024. 2024.
5. Kementerian Kesehatan RI. Rencana Aksi Nasional Penanggulangan Pneumonia dan Diare 2023-2030 [Internet]. 2023. Available from: https://p2p.kemkes.go.id/wpcontent/uploads/2023/12/NAPPD_2023-2030-compressed.pdf
6. UNICEF. Pneumonia [Internet]. 2025 [cited 2025 Jan 21];Available from: <https://data.unicef.org/topic/child-health/pneumonia/#more>
7. IVAC. Pneumonia Progress Report 2020. John Hopkins Sch Public Heal 2020;1–21.
8. Kementerian Kesehatan RI. Rencana Aksi Kegiatan 2020-2024 (Revisi) [Internet]. 2022. Available from: <https://wwwp2pm.kemenkes.go.id/storage/informasi-publik/content/sX2Xwj2R57n0K5XZsPUGpvICEqjjPg-metaUkFLIFAyUFRWWiAyMDIwLTlwMjRjRfRWRpdGVkICgxKS5wZGY=.pdf>
9. WHO. Ambient (outdoor) air pollution and health. World Heal. Organ. fact sheet2024;
10. Cortes-ramirez J, Wilches-vega JD, Paris-pineda OM, Rod JE, Ayurzana L, Sly PD. Heliyon Environmental risk factors associated with respiratory diseases in children with socioeconomic disadvantage. HLY [Internet] 2021;7(4):e06820. Available from: <http://dx.doi.org/10.1016/j.heliyon.2021.e06820>
11. Kementerian Kesehatan RI. Profil Kesehatan Indonesia Tahun 2024. 2025.
12. Kementerian Kesehatan RI. Profil Kesehatan Indonesia Tahun 2023. 2024.
13. Kementerian Kesehatan RI. Profil Kesehatan Indonesia 2022 [Internet]. 2023. Available from: <https://kemkes.go.id/id/profil-kesehatan-indonesia-2022>
14. Kementerian Kesehatan RI. Profil Kesehatan Indonesia 2021 [Internet]. 2022. Available from: <https://www.kemkes.go.id/download/resources/download/pusdatin/profil-kesehatan-indonesia/Profil-Kesehatan-2021.pdf>
15. Kementerian Kesehatan RI. Riskesdas 2013 [Internet]. 2013. Available from:

https://repository.badankebijakan.kemkes.go.id/id/eprint/4467/1/Laporan_riskesda_2013_final.pdf

16. Kementerian Kesehatan RI. Laporan Nasional Riskesda 2018 [Internet]. 2018. Available from: [https://repository.badankebijakan.kemkes.go.id/id/eprint/3514/1/Laporan Riskesda 2018 Nasional.pdf](https://repository.badankebijakan.kemkes.go.id/id/eprint/3514/1/Laporan_Riskesda_2018_Nasional.pdf)
17. Badan Pusat Statistik. Profil Kesehatan Provinsi Jawa Tengah Tahun 2016. 2016.
18. Choo ELW, Janhavi A, Koo JR, Yim SHL, Dickens BL LJ. Association between ambient air pollutants and upper respiratory tract infection and pneumonia disease burden in thailand from 200 to 2022: a high frequency ecological analysis. *BMC Infect Dis* 2023;1:1–13.
19. Peng W, Li H, Peng L, Wang Y, Wang W. Effects of particulate matter on hospital admissions for respiratory diseases: an ecological study based on 12.5 years of time series data in Shanghai. *Environ Heal A Glob Access Sci Source* [Internet] 2022;21(1):1–12. Available from: <https://doi.org/10.1186/s12940-021-00828-6>
20. Fahimah R, Kusumowardani E, Susanna D. Kualitas Udara Rumah dengan Kejadian Pneumonia Anak Bawah Lima Tahun di Puskesmas Cimahi Selatan dan Leuwi Gajah Kota Cimahi. 2016;(April 2014).
21. Tasci SS, Kavalci C, Kayipmaz AE. Relationship of Meteorological and Air Pollution Parameters with Pneumonia in Elderly Patients. 2018;2018.
22. Cheng C yung, Cheng S yu, Chen C chih, Pan H yung, Wu K han. Ambient air pollution is associated with pediatric pneumonia : a time-stratified case – crossover study in an urban area. 2019;1–9.
23. Munggaran G, Kusnopranto H AJ. Korelasi Polusi Udara dengan Insiden Pneumonia Balita di DKI Jakarta Pada Tahun 2017-2020. *J Promot Prev* [Internet] 2024;7(1):123–35. Available from: <https://doi.org/10.47650/jpp.v7i1.1071>
24. Arifin M, Azzahra L PA. Paparan Partikulat PM2.5 Terhadap Kesehatan Anak di Lingkungan Rumah. *J Kesehat Lingkung Indones* 2020;2(19):99–106.
25. Peng RD, Dominici F, Louis TA. Model Choice in Time Series Studies of Air Pollution and Mortality. *J R Stat Soc Ser A Stat Soc* [Internet] 2006;169(2):179–203. Available from: <https://doi.org/10.1111/j.1467-985X.2006.00410.x>
26. Schwartz J. The Distributed Lag between Air Pollution and Daily Deaths. *Epidemiology* [Internet] 2000;11(3). Available from: https://journals.lww.com/epidem/fulltext/2000/05000/the_distributed_lag_between_air_pollution_and.16.aspx
27. Gasparrini A, Armstrong B, Kenward MG. Distributed lag non-linear models. *Statistics Med* 2010;(November 2009).
28. Zhang Z, Hong Y, Liu N. Association of Ambient Particulate Matter 2.5 With Intensive Care Unit Admission Due to Pneumonia : a Distributed Lag Non-

- Linear Model. *Sci Rep* [Internet] 2017;(February):1–7. Available from: <http://dx.doi.org/10.1038/s41598-017-08984-x>
29. Zhang H, Liu S, Dou Q, Huang Z, Lv C, Liao J, et al. Association between Ambient Air Pollutants and Pneumonia in Wuhan, China, 2014–2017. *MDPI J* 2022;2014–7.
 30. Jin L, Zhou T, Fang S, Zhou X, Han B, Bai Y. The Short-Term Effects of Air Pollutants on Pneumonia Hospital Admissions in Lanzhou, China, 2014–2019: Evidence of Ecological Time-Series Study. *Air Qual Atmos Heal* [Internet] 2022;15(12):2199–213. Available from: <https://doi.org/10.1007/s11869-022-01244-6>
 31. Wang HT, Zhang H, Xue FZ, Zhao L, Cao WC. Associations of air pollutants with pneumonia hospital admissions in Qingdao, China: a prospective cohort study. *Environ Sci Pollut Res* [Internet] 2022;29(19):27779–87. Available from: <https://doi.org/10.1007/s11356-021-17892-7>
 32. Kementerian Kesehatan RI. Laporan Kinerja Direktorat Pencegahan Dan Pengendalian Penyakit Menular Tahun 2022. *Kementeri Kesehat Republik Indones* 2022;1–119.
 33. Dinas Provinsi Sumatera Barat. Laporan Bulanan Data Rutin ISPA Sumatera Barat [Internet]. Padang: 2024. Available from: <https://ppid.sumbarprov.go.id/home/details/29197>
 34. Dinas Lingkungan Hidup Kota Padang. El Nino dan Arah Angin Perparah Kabut Asap di Kota Padang [Internet]. 2023 Available from: <https://www.padang.go.id/el-nino-dan-arrah-angin-perparah-kabut-asap-di-padang>
 35. Dinas Lingkungan Hidup Kota Padang. Pemantauan Udara Ambien Kota Padang Tahun 2017. Padang: 2017.
 36. Vegi Mayolan Bingesti. Pengaruh Faktor Meteorologi dan Karakteristik Lalu Lintas terhadap Dispersi Konsentrasi Nitrogen Dioksida (NO₂) pada Udara Roadside Malam Hari di Kota Padang. *Tugas Akhir Univ Andalas* 2018;
 37. Zahara FY. Hubungan Variabilitas Unsur Iklim dan Kualitas Udara Dengan Kejadian Pneumonia Pada Balita di Kota Padang Tahun 2020-2024. 2025.
 38. Maharani D. Studi Ekologi Hubungan Faktor Lingkungan Fisik dengan Kejadian Kasus Pneumonia Balita dan Gambaran Spasial Faktor Host di Kota Padang Tahun 2021-2023. *Sch Unand* 2024;15(1):37–48.
 39. Yusra A. Analisis Spasial Parameter ISPU dan Faktor Iklim Terhadap Kejadian Pneumonia Pada Balita : Studi Ekologi Data Kota Padang Tahun 2023 - 2024. 2025;
 40. National Heart, Lung and BI. What Is Pneumonia? [Internet]. 2022 [cited 2025 Feb 10]; Available from: <https://www.nhlbi.nih.gov/health/pneumonia>
 41. UNICEF, WHO, World Bank and U. Levels & Trends in Child Mortality 2019. *UN IGME Rep* 2019;52.
 42. WHO. Child Mortality 2019 [Internet]. Levels Trends Child Mortal2019 [cited

- 2025 Jan 28];1–52. Available from: www.unicef.org/%3EUN-1GME-child-mortality-report-2019-pdf
43. UNICEF. One child dies of pneumonia every 39 seconds, agencies warn [Internet]. 2019 [cited 2025 Jan 29]; Available from: <https://www.unicef.org/indonesia/press-releases/one-child-dies-pneumonia-every-39-seconds-agencies-warn>
 44. Roser M DB. Pneumonia [Internet]. Our World Data Org 2018 [cited 2025 Jan 29]; Available from: <https://ourworldindata.org/pneumonia>
 45. Kementerian Kesehatan RI. Profil Kesehatan Indonesia Tahun 2020. 2020;
 46. Christopher F. Dion JVA. Streptococcus pneumoniae [Internet]. StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan. 2023 Aug 8.; 2023. Available from: <https://pubmed.ncbi.nlm.nih.gov/29261971/>
 47. Vardhmaan Jain, Rishik Vashisht, Gizem Yilmaz AB. Pneumonia Pathology [Internet]. StatPearls [Internet]. Treasure Isl. StatPearls Publ. 2025 Jan. 2023 Jul 31. [cited 2025 Feb 10]; Available from: <https://pubmed.ncbi.nlm.nih.gov/30252372/>
 48. Centers for Disease Control and Prevention. Clinical Overview of Pneumococcal Disease [Internet]. 2022 [cited 2025 Feb 11]; Available from: <https://www.cdc.gov/pneumococcal/clinicians/transmission.html>
 49. C.I, Morgan., S.s. S. Pneumonia, in: Pediatric Critical Care Medicine. Springer London 2014;(pp):87–100.
 50. Parul Pahal; Venkat Rajasurya; Sandeep Sharma. Typical Bacterial Pneumonia [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-; 2023. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK534295/>
 51. Sharma SBASADNS. Bacterial Pneumonia. [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-; [cited 2025 Feb 11]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK513321/>
 52. Wei Shen Lim. PneumoniadOverview, Encycl Respir Med [Internet] 2022;4(January):185–96. Available from: <https://doi.org/10.1016/B978-0-12-801238-3.11636-8>
 53. Kementerian Kesehatan RI. Buku Pedoman tatalaksana Pneumonia 2018 [Internet]. 2018. Available from: <https://p2p.kemkes.go.id/>
 54. American Lung Association. Pneumonia Symptoms and Diagnosis [Internet]. Lung Heal. Dis.2024 [cited 2025 Feb 11]; Available from: <https://www.lung.org/lung-health-diseases/lung-disease-lookup/pneumonia/symptoms-and-diagnosis>
 55. UNICEF. The State of the World's Children 2019: Children, Food and Nutrition--Growing Well in a Changing World. 2019.
 56. Solihin Abdul Wahab. Pengantar Analisis Kebijakan Publik. UPT Pnb Univ Muhammadiyah 2008;68.
 57. WHO. Ending preventable child deaths from pneumonia and diarrhoea by 2025. Development of the integrated Global Action Plan for the Prevention and

- Control of Pneumonia and Diarrhoea. *Arch Dis Child* 2015;100:S23–8.
58. WHO. Responding to the health needs of migrant farm workers in South Africa: Opportunities and challenges for sustainable community-based responses. *Heal Soc Care Community* 2020;28(1):60–8.
 59. Galobardes B, Shaw M, Lawlor DA, Lynch JW, Smith GD. Indicators of socioeconomic position (part 1). *J Epidemiol Community Health* 2006;60(1):7–12.
 60. Lim TK, Siow WT. Pneumonia in the tropics. *Respirology* 2018;23(1):28–35.
 61. Darmawansyah Alnur R, Ismail D, Siwi Padmawati R. Kebiasaan merokok keluarga serumah dengan kejadian pneumonia pada balita di kabupaten Bantul tahun 2015 The correlation of family smoking habits at home with the incidence of pneumonia among children in Bantul district in 2015. *Ber Kedokt Masy* 2017;33(3):119–24.
 62. Rahmiza M, . S, . N. The Relationships Between Physical Environmental Conditions of House with Pneumonia Incidence on Children Under Five Years, in the Working Area of Ngesrep Health Centre, Semarang City. *KnE Life Sci* 2019;4(10):324.
 63. Anwar A, Dharmayanti I. Pneumonia pada Anak Balita di Indonesia. *Kesmas Natl Public Heal J* 2014;8(8):359.
 64. Cahyono T. *Penyehatan Udara*. Yogyakarta: Andi; 2017.
 65. Mukono H. *Pencemaran Udara dan Pengaruhnya Terhadap Gangguan Saluran Pernapasan*. Surabaya: Airlangga University Press; 1997.
 66. PP Nomor 22 Tahun 2021. Peraturan Pemerintah Nomor 22 Tahun 2021 tentang Pedoman Perlindungan dan Pengelolaan Lingkungan Hidup. *Sekr Negara Republik Indones* [Internet] 2021;1(078487A):1–483. Available from: <http://www.jdih.setjen.kemendagri.go.id/>
 67. Wardoyo AYP. *Emisi Partikulat Kendaraan Bermotor dan Dampak Kesehatan* [Internet]. Malang: UB Press; 2016. Available from: <http://digilib.ub.ac.id/opac/detail-opac?id=68393>
 68. Badan Pusat Statistik. *Indeks Kualitas Lingkungan 2008*. 2015.
 69. Kementerian Lingkungan Hidup dan Kehutanan Republik Indonesia. Peraturan Menteri Lingkungan Hidup dan Kehutanan Republik Indonesia Nomor 27 Tahun 2021 Tentang Indeks Kualitas Lingkungan Hidup. *Kementeri Huk dan Hak Asasi Mns* [Internet] 2021;(1426):1–82. Available from: www.peraturan.go.id
 70. Rosyidah M. Polusi Udara dan Kesehatan Pernapasan. *J Ilm Tek Ind* 2016;2(1):1–5.
 71. Dinas Lingkungan Hidup Pemerintahan Kabupaten Buleleng. *Sumber Penyebab dan Pencemaran Udara* [Internet]. 2019 [cited 2025 Mar 17];Available from: <https://dlh.bulelengkab.go.id/informasi/detail/artikel/sumber-penyebab-dan-pencemaran-udara-48>

72. Abidin, J., & Hasibuan FA. Pengaruh Dampak Pencemaran Udara Terhadap Kesehatan untuk Menambah Pemahaman Masyarakat Awam Tentang Bahaya dari Polusi Udara. *Pros Snfur* 2019;2(4):3.
73. Vinet L, Zhedanov A. A “missing” family of classical orthogonal polynomials. *J Phys A Math Theor* [Internet] 2011;44(8). Available from: [https://www.bertelsmann-stiftung.de/fileadmin/files/BSt/Publikationen/GrauePublikationen/MT_Globalization_Report_2018.pdf%0Ahttp://eprints.lse.ac.uk/43447/1/India_globalisation_society_and_inequalities\(lsero\).pdf%0Ahttps://www.quora.com/What-is-the](https://www.bertelsmann-stiftung.de/fileadmin/files/BSt/Publikationen/GrauePublikationen/MT_Globalization_Report_2018.pdf%0Ahttp://eprints.lse.ac.uk/43447/1/India_globalisation_society_and_inequalities(lsero).pdf%0Ahttps://www.quora.com/What-is-the)
74. Wardhana WA. Dampak Pencemaran Lingkungan. Yogyakarta: Andi Offset; 2004.
75. Jainal Abidin, Ferawati Artauli Hasibuan KK. Pengaruh Dampak Pencemaran Udara Terhadap Kesehatan Untuk Menambah Pemahaman Masyarakat Awam tentang Bahaya dari Polusi Udara. *Pros Semin Nas Fis Univ Riau IV* 2019;(pp):1–3.
76. United State Environmental Protection Agency. Research on Health Effects from Air Pollution [Internet]. 2024 [cited 2025 Feb 12];Available from: <https://www.epa.gov/air-research/research-health-effects-air-pollution>
77. United States Environmental Protection Agency. Health and Environmental Effects of Hazardous Air Pollutants [Internet]. [cited 2015 Feb 12];Available from: <https://www.epa.gov/haps/health-and-environmental-effects-hazardous-air-pollutants>
78. Huff RD, Carlsten C, Hirota JA. An update on immunologic mechanisms in the respiratory mucosa in response to air pollutants. *J Allergy Clin Immunol* [Internet] 2019;143(6):1989–2001. Available from: <https://doi.org/10.1016/j.jaci.2019.04.012>
79. Dasrul Chaniago, Annisa Zahara ISR. Indeks Standar Pencemar Udara (ISPU) Sebagai Informasi Mutu Udara Ambien Di Indonesia. Direktorat Pengendali. Pencemaran Udar. Direktorat Jenderal Pengendali. Pencemaran dan Kerusakan Lingkungan, Kementeri. *Lingkung. Hidup dan Kehutan*.2020;
80. Pinontoan, Odi R, Oksfriani J. Sumampouw JEN. *Epidemiologi Kesehatan Lingkungan*. Yogyakarta: 2019.
81. Agency USEP. Particulate Matter (PM) Pollution [Internet]. [cited 2025 Feb 12];Available from: <https://www.epa.gov/pm-pollution>
82. Rahardjo RAH. Hubungan antara Paparan Debu Padi dengan Kapasitas Fungsi Paru Tenaga Kerja di Penggilingan Padi Anggraini Sragen. *Fak Kedokt Univ Sebel Maret Surakarta* 2010;1–74.
83. Mallongi A. *Dinamika Polutan dan Risiko Kesehatan Lingkungan*. Yogyakarta: Gosyen Publishing; 2019.
84. Yusnabeti. PM10 DAN INFEKSI SALURAN PERNAPSAN PADA PEKERJA INDUSTRI MEBEL. *Makara Kesehat* 2010;14(1):25–30.
85. Agency USEP. Particulate Matter (PM10) Trends [Internet]. 2024 [cited 2025 Feb 12];Available from: <https://www.epa.gov/air-trends/particulate-matter->

pm10-trends

86. Miller GT. *Living in the Environment*. Cengage Learning; 2016.
87. Fardiaz S. *Polusi Air & Udara*. Yogyakarta: Kanisius; 2003.
88. Sulistiyono A. Studi Profil Ozon Permukaan (O₃) Dan Gas Karbon Monoksida (CO) Antara Kota Bandung Dan Bukit Kototabang Tahun 2008 Study Of Surface Ozon (O₃) And Carbon Monoxide (CO) Profile Between Bandung City And Bukit Kototabang On 2008. *J Ilmu Lingkung* 2019;17(2):239–44.
89. NASA. Chemistry of Ozone Formation [Internet]. 2023 [cited 2025 Feb 12];Available from: https://earthobservatory.nasa.gov/features/ChemistrySunlight/chemistry_sunlight3.php
90. United State Environmental Protection Agency. Health Effects of Ozone Pollution [Internet]. 2019 [cited 2025 Feb 12];Available from: <https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution>
91. Yang L, Li C, Tang X. The Impact of PM_{2.5} on the Host Defense of Respiratory System. *Front Cell Dev Biol* 2020;8(March):1–9.
92. Lin LZ, Chen JH, Yu YJ, Dong GH. Ambient air pollution and infant health: a narrative review. *eBioMedicine* [Internet] 2023;93:104609. Available from: <https://doi.org/10.1016/j.ebiom.2023.104609>
93. Levin KA. Study design VI – ecological studies. *Evid Based Dent* 2006;7(4):108.
94. Morgenstern H. Ecologic studies in epidemiology: concepts, principles, and methods. *Annu Rev Public Health* [Internet] 1995 [cited 2025 Feb 22];16:61–81. Available from: <https://pubmed.ncbi.nlm.nih.gov/7639884/>
95. Xia X, Zhang A, Liang S, Qi Q, Jiang L, Ye Y. The Association between Air Pollution and Population Health Risk for Respiratory Infection: A Case Study of Shenzhen, China. *Int J Environ Res Public Health* 2017;14(9).
96. Sarpedal KLH. *Sarana Pengendalian Dampak Lingkungan Kementerian Lingkungan Hidup*. Air Quality Monitoring. 2003;
97. Dwi R, Id W, Laksono AD, Id NR, Id HA. Regional differences in primary healthcare utilization in Java Region, Indonesia. *PLoS One* [Internet] 2023;1–12. Available from: <http://dx.doi.org/10.1371/journal.pone.0283709>
98. Aisyah DN, Setiawan AH, Mayadewi CA, Lokopessy AF, Kozlakidis Z, Manikam L. Understanding Health Information Systems Utilization Across Public Health Centers in Indonesia: Cross-Sectional Study. *JMIR Med informatics* 2025;13:e68613.
99. Wawang W, Tri Yunis Miko W, Amelia M. Spatial Distribution and Temporal Trends of Pneumonia in Indonesia: Descriptive Analysis of Early Warning and Response System (SKDR) Data, 2022-2024. *Indones J Infect Dis* [Internet] 2025;11(2 SE-Articles):147–60. Available from: <https://www.ijid-rspisuliantisaroso.co.id/index.php/ijid/article/view/580>

100. Hastuti NM, Lestari T, Shinta TB. Pelaporan Data Surveilans Penyakit Menular dan Tidak Menular Di UPT Puskesmas Tasikmadu. *Indones J Heal Inf Manag* 2023;3(1):1–6.
101. César ACG, Nascimento LF. Coarse particles and hospital admissions due to respiratory diseases in children. An ecological time series study. *Sao Paulo Med J* 2018;136(3):245–50.
102. Tuan TS, Venancio TS, Nascimento LFC. Air pollutants and hospitalization due to pneumonia among children. An ecological time series study. *Sao Paulo Med J* 2015;133(5):408–13.
103. Bachtiar VS, Husni N, Amin M, Purnawan P, Suryati I. Long-term trends and meteorological drivers of urban air pollutants in Padang, Indonesia (2019–2023): insights from continuous air quality monitoring. *Environ Monit Assess* [Internet] 2026;198(5):417. Available from: <https://doi.org/10.1007/s10661-026-15276-3>
104. Erdi Nur, Basuki Ario Seno RH. Risiko Gangguan Kesehatan Masyarakat Akibat Paparan PM10 di Kota Padang. *J Kesehat Lingkung Indones* 2021;20(2):97–103.
105. Santoso M, Lestiani DD HP. Assessment of urban air quality in Indonesia. *Aerosol Air Qual Res* [Internet] 2020;20(6):1234–45. Available from: <https://doi.org/10.4209/aaqr.2020.04.0162>
106. Rushayati SB, Hermawan R, Setiawan Y, Wijayanto AK, Prasetyo LB, Permatasari PA. The Effect of Utilization Patterns of Green Open Space on The Dynamics Change of Air Quality Due to the Covid-19 Pandemic in Jabodetabek Region. *J Nat Resour Environ Manag* 2020;10(4):559–67.
107. Safira MD, Syafiuddin A, Hakim A et al. Literature Review: Kualitas Udara di Kawasan Industri di Berbagai Lokasi di Indonesia. *J Tek Lingkung* 2022;8(2):45–53.
108. Sharma A KP. Machine Learning and Deep Learning Approaches for PM2.5 Prediction: A Study on Urban Air Quality in Jaipur, India. *Earth Sci Inf* [Internet] 2024;17(3):987–1002. Available from: <https://doi.org/10.1007/s12145-024-01234-9>
109. Handika RA, Purwaningrum SI, Lestari RA. Analisis Risiko Non Karsinogenik Paparan PM10 di Kawasan Komersial, Kota Jambi. *J Serambi Eng* 2019;4(2):514–21.
110. Mukta TA, Hoque MMM, Sarker ME, Hossain MN, Biswas GK. Seasonal Variations of Gaseous Air Pollutants (SO₂, NO₂, O₃, CO) and Particulates (PM_{2.5}, PM₁₀) in Gazipur: An Industrial City in Bangladesh. *Adv Environ Technol* 2020;6(4):195–209.
111. Musiolkova M, Huszar P, Navratil M S V. Impact of Season, Cloud Cover, and Air Pollution on Different Spectral Regions of Ultraviolet and Visible Incident Solar Radiation at The Surface. *Atmos Env* [Internet] 2021; Available from: <https://doi.org/10.1016/j.atmosenv.2020.118012>
112. Syifa N. Analisis Risiko Kesehatan Lingkungan Paparan Partikulat (TSP,

- PM10, PM2.5) terhadap Pedagang Kaki Lima di Kelurahan Glodok, Jakarta Barat Tahun 2022. *J Kesehat Masy* 2022;10(3):234–42.
113. Gou A, Tan G, Ding X, Wang J, Lv X, Gou C, et al. Urban-rural difference in the lagged effects of PM2.5 and PM10 on COPD mortality in Chongqing, China. *BMC Public Health* [Internet] 2023;23(1):1–12. Available from: <https://doi.org/10.1186/s12889-023-16113-9>
 114. Dondi A, Carbone C, Manieri E, Zama D, Del Bono C, Betti L, et al. Outdoor Air Pollution and Childhood Respiratory Disease: The Role of Oxidative Stress. *Int J Mol Sci* 2023;24(5).
 115. Huang ZH, Liu XY, Zhao T, Jiao KZ, Ma XX, Ren Z, et al. Short-term effects of air pollution on respiratory diseases among young children in Wuhan city, China. *World J Pediatr* 2022;18(5):333–42.
 116. Liu PH, Huang KC, Tseng YL, Chiu IM, Pan HY, Cheng FJ. Association between Air Pollution and Risk of Hospital Admission for Pediatric Pneumonia in a Tropical City, Kaohsiung, Taiwan. *Aerosol Air Qual Res* 2022;22(9):1–13.
 117. Zhou X, Guo M, Li Z, Yu X, Huang G, Li Z, et al. Associations between air pollutant and pneumonia and asthma requiring hospitalization among children aged under 5 years in Ningbo, 2015–2017. *Front Public Heal* 2023;10(3).
 118. Esposito S, Fainardi V, Titolo A, Lazzara A, Menzella M, Campana B, et al. How air pollution fuels respiratory infections in children: current insights. *Front Public Heal* 2025;13(April):1–9.
 119. Wu Z, Miao C, Li H, Wu S, Gao H, Liu W, et al. The lag-effects of meteorological factors and air pollutants on child respiratory diseases in Fuzhou, China. *J Glob Health* 2022;12:1–9.
 120. Larson PS, Espira L, Glenn BE, Larson MC, Crowe CS, Jang S, et al. Long-Term PM2.5 Exposure Is Associated with Symptoms of Acute Respiratory Infections among Children under Five Years of Age in Kenya, 2014. *Int J Environ Res Public Health* 2022;19(5):1–20.
 121. Liu Y, You J, Dong J, Wang J, Bao H. Ambient carbon monoxide and relative risk of daily hospital outpatient visits for respiratory diseases in Lanzhou, China. *Int J Biometeorol* [Internet] 2023;67(12):1913–25. Available from: <https://doi.org/10.1007/s00484-023-02550-z>
 122. Tsekhmister Y, Gnatkov V, Smyrvets I. Toxicological profile for carbon monoxide. *Chem Chem Technol* 2016;6(1):148–57.
 123. He T, Qian X, Huang J, Li G, Guo X. A mediation analysis of meteorological factors on the association between ambient carbon monoxide and tuberculosis outpatients visits. *Front Public Heal* 2025;13(February).
 124. Tian L, Qiu H, Pun VC, Lin H, Ge E, Chan JC, et al. Ambient Carbon Monoxide Associated with Reduced Risk of Hospital Admissions for Respiratory Tract Infections. *Am J Respir Crit Care Med* [Internet] 2013;188(10):1240–5. Available from: <https://doi.org/10.1164/rccm.201304-0676OC>
 125. Otterbein LE, Bach FH, Alam J, Soares M, Tao Lu H, Wysk M, et al. Carbon monoxide has anti-inflammatory effects involving the mitogen-activated

- protein kinase pathway. *Nat Med* [Internet] 2000;6(4):422–8. Available from: <https://doi.org/10.1038/74680>
126. Wang H, Zeng HL, Li GX, Zhou S, Lyu JL, Li Q, et al. Short-term effects of ambient ozone on pediatric pneumonia hospital admissions: a multi-city case-crossover study in China. *Environ Health Prev Med* 2025;30:1–8.
 127. Kim KN, Lim YH, Bae S, Song IG, Kim S, Hong YC. Age-specific effects of ozone on pneumonia in Korean children and adolescents: a nationwide time-series study. *Epidemiol Health* 2022;44:1–8.
 128. Russo RC, Togbe D, Couillin I, Segueni N, Han L, Quesniaux VFJ, et al. Ozone-induced lung injury and inflammation: Pathways and therapeutic targets for pulmonary diseases caused by air pollutants. *Environ Int* 2025;198(August 2024).
 129. Cui Z, Ma Y, Yu Y, Li N, Wang J, Wang A, et al. Short-term exposure to ambient fine particulate pollution aggravates ventilator-associated pneumonia in pediatric intensive care patients undergoing cardiovascular surgeries. *Environ Heal A Glob Access Sci Source* 2023;22(1):1–15.
 130. Michal Krzyzanowski. The health impacts of nitrogen dioxide (NO₂) pollution. *Heal Environ Alliance* (2).
 131. Kawano A, Kim Y, Meas M, Sokal-Gutierrez K. Association between satellite-detected tropospheric nitrogen dioxide and acute respiratory infections in children under age five in Senegal: spatio-temporal analysis. *BMC Public Health* [Internet] 2022;22(1):1–10. Available from: <https://doi.org/10.1186/s12889-022-12577-3>
 132. Chauhan AJ, Inskip HM, Linaker CH, Smith S, Schreiber J, Johnston SL. Personal exposure to nitrogen dioxide (NO₂) and the severity of virus-induced asthma in children. *Lancet* 2020;361(January).

