

DAFTAR PUSTAKA

- Al-Naseem, A., Sallam, A., Choudhury, S., & Thachil, J. (2021). Iron deficiency without anaemia: A diagnosis that matters. *Clin. Med. J. R. Coll. Physicians London* 21 : 107–113. Available at: <https://doi.org/10.7861/CLINMED.2020-0582>
- Andriastuti, M., Ilmana, G., Nawangwulan, S.A., & Kosasih, K.A. (2020). Prevalence of anemia and iron profile among children and adolescent with low socio-economic status. *Int. J. Pediatr. Adolesc. Med.* 7 : 88–92. Available at: <https://doi.org/10.1016/j.ijpam.2019.11.001>
- Anonim (2022). Bc-760[B]/Bc-760[R]/Bc-780[R] Auto Hematology Analyzer Operator’S Manual. Shenzhen : Shenzhen Mindray Bio-medical Electronics Co., Ltd.
- Auerbach, M., Staffa, S.J., & Brugnara, C. (2021). Using Reticulocyte Hemoglobin Equivalent as a Marker for Iron Deficiency and Responsiveness to Iron Therapy. *Mayo Clin. Proc.* 96 : 1510–1519. Available at: <https://doi.org/10.1016/j.mayocp.2020.10.042>
- Ayan, D., & Soylemez, S. (2020). Measuring plasma ferritin levels with two different methods: A comparison of roche cobas E601 versus roche cobas C501 (integrated modular system roche cobas 6000). *J. Med. Biochem.* 39 : 13–18. Available at: <https://doi.org/10.2478/jomb-2018-0048>
- Balci, Y.I., Akpinar, F.O., Polat, A., Uzun, U., & Ergin, A. (2016). Evaluation of reticulocyte parameters in iron deficiency, vitamin B12 deficiency and Mixed Anemia. *Clin. Lab.* 62 : 343–347. Available at: <https://doi.org/10.7754/Clin.Lab.2015.150616>
- Belot, A., Puy, H., Hamza, I., & Bonkovsky, H.L. (2024). Update on heme biosynthesis, tissue-specific regulation, heme transport, relation to iron metabolism and cellular energy. *Liver Int.* 44 : 2235–2250. Available at: <https://doi.org/10.1111/liv.15965>
- Bhanderi, D.N., Ramana, N.P., Babariya, K.A., & Vithalapara, P.K. (2025). Prevalence and Risk Factors of Anemia among Undergraduate Medical Students: A Cross-Sectional Study. *Eur. J. ...* 68–70.
- Breithaupt-Groegler, K., Coch, C., Coenen, M., Donath, F., Erb-Zohar, K., Francke, K., *et al.* (2017). Who is a ‘healthy subject’?—consensus results on pivotal eligibility criteria for clinical trials. *Eur. J. Clin. Pharmacol.* 73 : 409–416. Available at: <https://doi.org/10.1007/s00228-016-2189-8>
- Brugnara, C. (2019). Diagnostic approaches to iron deficient states and iron deficiency anemia. *Haema* 10 : 2–14.
- Brugnara, C. (2000). Reticulocyte cellular indices: A new approach in the

diagnosis of anemias and monitoring of erythropoietic function. *Crit. Rev. Clin. Lab. Sci.* 37 : 93–130. Available at:
<https://doi.org/10.1080/10408360091174196>

- Brugnara, C., Schiller, B., & Moran, J. (2006). Reticulocyte hemoglobin equivalent (Ret He) and assessment of iron-deficient states. *Clin. Lab. Haematol.* 28 : 303–308. Available at: <https://doi.org/10.1111/j.1365-2257.2006.00812.x>
- Buttarelo, M. (2016). Laboratory diagnosis of anemia: are the old and new red cell parameters useful in classification and treatment, how? *Int. J. Lab. Hematol.* 38 : 123–132. Available at: <https://doi.org/10.1111/ijlh.12500>
- Buttarelo, M., Rauli, A., & Mezzapelle, G. (2017). Reticulocyte count and extended reticulocyte parameters by Mindray BC-6800: Reference intervals and comparison with Sysmex XE-5000. *Int. J. Lab. Hematol.* 39 : 596–603. Available at: <https://doi.org/10.1111/ijlh.12705>
- Camaschella, C. (2015). Iron-Deficiency Anemia. *N. Engl. J. Med.* 372 : 1832–1843. Available at: <https://doi.org/10.1056/NEJMra1401038>
- Cancado, R.D., Leite, L.A.C., & Muñoz, M. (2025). Defining Global Thresholds for Serum Ferritin: A Challenging Mission in Establishing the Iron Deficiency Diagnosis in This Era of Striving for Health Equity. *Diagnostics* 15 : 1–9. Available at: <https://doi.org/10.3390/diagnostics15030289>
- Cappellini, M.D., Comin-Colet, J., de Francisco, A., Dignass, A., Doehner, W., S. P. Lam, C., *et al.* (2017). Iron deficiency across chronic inflammatory conditions: International expert opinion on definition, diagnosis, and management. *Am. J. Hematol.* 92 : 1068–1078. Available at: <https://doi.org/10.1002/ajh.24820>
- Cha, H.J. (2024). Erythropoiesis: insights from a genomic perspective. *Exp. Mol. Med.* 56 : 2099–2104. Available at: <https://doi.org/10.1038/s12276-024-01311-1>
- Chaudhry, G.-S., Zeenia, Z., Akim, A.M., Sung, Y.Y., & Sifzizul, T.M.T. (2023). Iron Deficiency Amongst University Graduates; Prevalence, Diagnosis, and Iron Consumption. *Arch. Pharm. Pract.* 14 : 44–50. Available at: <https://doi.org/10.51847/nbiyqpbrag>
- Chen, J.-J., & Zhang, S. (2019). Heme-regulated eIF2 α kinase in erythropoiesis and hemoglobinopathies. *Blood* 134 : 1697–1707. Available at: <https://doi.org/10.1182/blood.2019001915>
- Chesher, D. (2008). Evaluating assay precision. *Clin. Biochem. Rev.* 29 Suppl 1 : S23–6.
- Coad, J., & Pedley, K. (2014). Iron deficiency and iron deficiency anemia in women. *Scand. J. Clin. Lab. Invest.* 74 : 82–89. Available at: <https://doi.org/10.3109/00365513.2014.936694>

- Committee, A.M., & No, A. (2015). An analyst's guide to precision. *Anal. Methods* 7 : 8508–8510. Available at: <https://doi.org/10.1039/c5ay90071a>
- Dahman, L.S.B., Sumaily, K.M., Sabi, E.M., Hassan, M.A., Thalab, A.M.B., Sayad, A.S., *et al.* (2022). A Comparative Study for Measuring Serum Ferritin Levels with Three Different Laboratory Methods: Enzyme-Linked Immunosorbent Assay versus Cobas e411 and Cobas Integra 400 Methods. *Diagnostics* 12. Available at: <https://doi.org/10.3390/diagnostics12020320>
- Das, J., Khonglah, Y., Tiewsoh, I., Chowdhury, Z., & Barman, H. (2022). Utility of reticulocyte indices in the diagnosis of pancytopenia 1335–1340. Available at: https://doi.org/10.4103/jfmmpc.jfmmpc_1121_21
- De Franceschi, L., Iolascon, A., Taher, A., & Cappellini, M.D. (2017). Clinical management of iron deficiency anemia in adults: Systemic review on advances in diagnosis and treatment. *Eur. J. Intern. Med.* 42 : 16–23. Available at: <https://doi.org/10.1016/j.ejim.2017.04.018>
- Elsayed, M.E., Sharif, M.U., & Stack, A.G. (2016). Transferrin Saturation: A Body Iron Biomarker, 1st ed, *Advances in Clinical Chemistry*. Elsevier Inc. Available at: <https://doi.org/10.1016/bs.acc.2016.03.002>
- Gassmann, M., & Muckenthaler, M.U. (2015). Adaptation of iron requirement to hypoxic conditions at high altitude. *J. Appl. Physiol.* 119 : 1432–1440. Available at: <https://doi.org/10.1152/japplphysiol.00248.2015>
- Gomme, P.T., & McCann, K.B. (2005). Transferrin: Structure, function and potential therapeutic actions. *Drug Discov. Today* 10 : 267–273. Available at: [https://doi.org/10.1016/S1359-6446\(04\)03333-1](https://doi.org/10.1016/S1359-6446(04)03333-1)
- Hamarsha, Q., Kawtharany, H., Choaib, A., Azzam, M., Khawandi, J., Alkasrawi, H., *et al.* (2025). Prevalence of iron deficiency with or without anemia in adults: A systematic review and meta-analysis. *Blood* 146 : 6468–6468. Available at: <https://doi.org/10.1182/blood-2025-6468>
- Heteren, F. Van, Raaphorst, N., Groeneveld, S., & Bussemaker, J. (2023). International Journal of Nursing Studies Advances Professionals' health conceptions of clients with psychosocial problems : An analysis based on an empirical exploration of semi-structured interviews. *Int. J. Nurs. Stud. Adv.* 5 : 100120. Available at: <https://doi.org/10.1016/j.ijnsa.2023.100120>
- Hossen, M.M., Edirisinghe, N., Fleiss, B., & Zakaria, R. (2024). Basics of Method Evaluation in Clinical Laboratory Testing: A Mini-Review. *Clin. Biochem. Rev.* 44 : 121–130. Available at: <https://doi.org/10.33176/AACB-24-00001>
- Jones, G.R.D., Sikaris, K., & Gill, J. (2012). Allowable limits of performance' for external quality assurance programs - An approach to application of the stockholm criteria by the RCPA quality assurance programs. *Clin. Biochem. Rev.* 33 : 133–139.
- Kafina, M.D., & Paw, B.H. (2017). Intracellular iron and heme trafficking and

metabolism in developing erythroblasts. *Metallomics* 9 : 1193–1203.
Available at: <https://doi.org/10.1039/C7MT00103G>

Karlsson, T. (2017). Evaluation of a competitive hepcidin ELISA assay in the differential diagnosis of iron deficiency anaemia with concurrent inflammation and anaemia of inflammation in elderly patients. *J. Inflamm. (United Kingdom)* 14 : 1–5. Available at: <https://doi.org/10.1186/s12950-017-0166-3>

Kassebaum, N.J., Jasrasaria, R., Naghavi, M., Wulf, S.K., Johns, N., Lozano, R., *et al.* (2014). A systematic analysis of global anemia burden from 1990 to 2010. *Blood* 123 : 615–624. Available at: <https://doi.org/10.1182/blood-2013-06-508325>

Kato, G.J., Piel, F.B., Reid, C.D., Gaston, M.H., Ohene-Frempong, K., Krishnamurti, L., *et al.* (2018). Sick cell disease. *Nat. Rev. Dis. Prim.* 4 : 1–22. Available at: <https://doi.org/10.1038/nrdp.2018.10>

Khanna, R., Saeed, M., Manohar, C., & Singh, V.K. (2023). Utility of Automated Reticulocyte Research Parameters derived from Beckman Coulter DXH800 in Nutritional Deficiency Anaemias 16 : 52711. Available at: <https://doi.org/10.52711/0974-360X.2023.00955>

Kim, A., & Nemeth, E. (2015). New insights into iron regulation and erythropoiesis. *Curr. Opin. Hematol.* 22 : 199–205. Available at: <https://doi.org/10.1097/MOH.0000000000000132>

Kılıç, M., Özpınar, A., Serteser, M., Kilercik, M., & Serdar, M. (2022). the Effect of Reticulocyte Hemoglobin Content on the Diagnosis of Iron Deficiency Anemia: a Meta-Analysis Study. *J. Med. Biochem.* 41 : 1–13. Available at: <https://doi.org/10.5937/JOMB0-31435>

Lin, H., Zhan, B., Shi, X., Feng, D., Tao, S., Wo, M., *et al.* (2024). The mean reticulocyte volume is a valuable index in early diagnosis of cancer-related anemia. *PeerJ* 12 : 1–17. Available at: <https://doi.org/10.7717/peerj.17063>

Lopez, A., Cacoub, P., Macdougall, I.C., & Peyrin-Biroulet, L. (2016). Iron deficiency anaemia. *Lancet* 387 : 907–916. Available at: [https://doi.org/10.1016/S0140-6736\(15\)60865-0](https://doi.org/10.1016/S0140-6736(15)60865-0)

Martens, K., & DeLoughery, T.G. (2023). Sex, lies, and iron deficiency: a call to change ferritin reference ranges. *Hematol. (United States)* 2023 : 617–621. Available at: <https://doi.org/10.1182/hematology.2023000494>

Mast, A.E., Blinder, M.A., Lu, Q., Flax, S., & Dietzen, D.J. (2002). Clinical utility of the reticulocyte hemoglobin content in the diagnosis of iron deficiency. *Blood* 99 : 1489–1491. Available at: <https://doi.org/10.1182/blood.V99.4.1489>

Monaghan, T.F., Rahman, S.N., Agudelo, C.W., Wein, A.J., Lazar, J.M., Everaert, K., *et al.* (2021). Foundational statistical principles in medical

research: Sensitivity, specificity, positive predictive value, and negative predictive value. *Med.* 57 : 0–6. Available at: <https://doi.org/10.3390/medicina57050503>

Nahm, F.S. (2022). Receiver operating characteristic curve: overview and practical use for clinicians. *Korean J. Anesthesiol.* 75 : 25–36. Available at: <https://doi.org/10.4097/kja.21209>

Obeagu, E.I. (2025). Iron homeostasis and health: understanding its role beyond blood health – a narrative review. *Ann. Med. Surg.* 87 : 3362–3371. Available at: <https://doi.org/10.1097/ms9.00000000000003100>

Park, S.H., Park, C.J., Lee, B.R., Nam, K.S., Kim, M.J., Han, M.Y., *et al.* (2015). Sepsis affects most routine and cell population data (CPD) obtained using the Sysmex XN-2000 blood cell analyzer: Neutrophil-related CPD NE-SFL and NE-WY provide useful information for detecting sepsis. *Int. J. Lab. Hematol.* 37 : 190–198. Available at: <https://doi.org/10.1111/ijlh.12261>

Pasricha, S.R., Tye-Din, J., Muckenthaler, M.U., & Swinkels, D.W. (2021). Iron deficiency. *Lancet* 397 : 233–248. Available at: [https://doi.org/10.1016/S0140-6736\(20\)32594-0](https://doi.org/10.1016/S0140-6736(20)32594-0)

Pfeiffer, C.M., & Looker, A.C. (2017). Laboratory methodologies for indicators of iron status: Strengths, limitations, and analytical challenges. *Am. J. Clin. Nutr.* 106 : 1606S-1614S. Available at: <https://doi.org/10.3945/ajcn.117.155887>

Piel, F.B., Steinberg, M.H., & Rees, D.C. (2017). Sickle Cell Disease. *N. Engl. J. Med.* 376 : 1561–1573. Available at: <https://doi.org/10.1056/NEJMra1510865>

Piva, E., Brugnara, C., Chiangetti, L., & Plebani, M. (2010). Automated reticulocyte counting: State of the art and clinical applications in the evaluation of erythropoiesis. *Clin. Chem. Lab. Med.* 48 : 1369–1380. Available at: <https://doi.org/10.1515/CCLM.2010.292>

Putri, R.G.P., Sholikhah, A., & Sukirto, N. (2020). Risk Factor for Erythropoietin Resistance in Hemodialysis Patient : Literature Review. *Ahmad Dahlan Med. J.* 1 : 33–49. Available at: <https://doi.org/10.12928/admj.v1i2.3131>

Ranganathan, P., & Aggarwal, R. (2018). Understanding the properties of diagnostic tests - Part 2: Likelihood ratios. *Perspect. Clin. Res.* 9 : 99–102. Available at: <https://doi.org/10.4103/picr.PICR-41-18>

Riley, R.S., Ben-Ezra, J.M., Goel, R., & Tidwell, A. (2001). Reticulocytes and reticulocyte enumeration. *J. Clin. Lab. Anal.* 15 : 267–294. Available at: <https://doi.org/10.1002/jcla.1039>

Sadiq, I.Z., Abubakar, F.S., Usman, H.S., Abdullahi, A.D., Ibrahim, B., Kastayal, B.S., *et al.* (2024). Thalassemia: Pathophysiology, Diagnosis, and Advances in Treatment. *Thalass. Reports* 14 : 81–102. Available at:

<https://doi.org/10.3390/thalassrep14040010>

- Safiri, S., Kolahi, A.A., Noori, M., Nejadghaderi, S.A., Karamzad, N., Bragazzi, N.L., *et al.* (2021). Burden of anemia and its underlying causes in 204 countries and territories, 1990–2019: results from the Global Burden of Disease Study 2019. *J. Hematol. Oncol.* 14 : 1–16. Available at: <https://doi.org/10.1186/s13045-021-01202-2>
- Schrage, B., Rübsamen, N., Schulz, A., Münzel, T., Pfeiffer, N., Wild, P.S., *et al.* (2020). Iron deficiency is a common disorder in general population and independently predicts all-cause mortality: results from the Gutenberg Health Study. *Clin. Res. Cardiol.* 109 : 1352–1357. Available at: <https://doi.org/10.1007/s00392-020-01631-y>
- Shu, G., Du, H., Zhang, Y., He, Z., Xue, Y., Chen, M., *et al.* (2024). Enhancing diagnostic accuracy for iron deficiency in pregnant women through mean reticulocyte volume. *Asia Pac. J. Clin. Nutr.* 33 : 539–544. Available at: [https://doi.org/10.6133/apjcn.202412_33\(4\).0008](https://doi.org/10.6133/apjcn.202412_33(4).0008)
- Silva, B., & Faustino, P. (2015). An overview of molecular basis of iron metabolism regulation and the associated pathologies. *Biochim. Biophys. Acta - Mol. Basis Dis.* 1852 : 1347–1359. Available at: <https://doi.org/10.1016/j.bbadis.2015.03.011>
- Skikne, B.S., Punnonen, K., Caldron, P.H., Bennett, M.T., Rehu, M., Gasior, G.H., *et al.* (2011). Improved differential diagnosis of anemia of chronic disease and iron deficiency anemia: A prospective multicenter evaluation of soluble transferrin receptor and the sTfR/log ferritin index. *Am. J. Hematol.* 86 : 923–927. Available at: <https://doi.org/10.1002/ajh.22108>
- Slusarczyk, P., Mandal, P.K., Zurawska, G., Niklewicz, M., Chouhan, K., Mahadeva, R., *et al.* (2023). Impaired iron recycling from erythrocytes is an early hallmark of aging. *Elife* 12 : 1–39. Available at: <https://doi.org/10.7554/elife.79196>
- System, M.H. (2013). MATTHEW W. SHORT, LTC, MC, USA, and JASON E. DOMAGALSKI, MAJ, MC, USA, Madigan Healthcare System, Tacoma, Washington Am Fam Physician. 2013 Jan 15;87(2):98-104.
- Urrechaga, E., & Fernández, M. (2026). Mean reticulocyte volume (MRV) as a diagnostic marker for erythropoiesis: results with Mindray BC-6800 Plus. *J. Lab. Precis. Med.* 11 : 1–11. Available at: <https://doi.org/10.21037/jlpm-25-30>
- Vogt, A.C.S., Arsiwala, T., Mohsen, M., Vogel, M., Manolova, V., & Bachmann, M.F. (2021). On iron metabolism and its regulation. *Int. J. Mol. Sci.* 22 : 1–17. Available at: <https://doi.org/10.3390/ijms22094591>
- WHO (2020). Basic Documents: 49th edition, World Health Organization 2020.
- Xu, Y., Yang, W., Liao, L., Deng, Z., Qiu, Y., Chen, W., *et al.* (2016). Mean

reticulocyte volume: A specific parameter to screen for hereditary spherocytosis. *Eur. J. Haematol.* 96 : 170–174. Available at: <https://doi.org/10.1111/ejh.12563>

Yang, J., Li, Q., Feng, Y., & Zeng, Y. (2023). Iron Deficiency and Iron Deficiency Anemia: Potential Risk Factors in Bone Loss. *Int. J. Mol. Sci.* 24. Available at: <https://doi.org/10.3390/ijms24086891>

Yiannikourides, A., & Latunde-Dada, G. (2019). A Short Review of Iron Metabolism and Pathophysiology of Iron Disorders. *Medicines* 6 : 85. Available at: <https://doi.org/10.3390/medicines6030085>

Zhang, S., Macias-Garcia, A., Velazquez, J., Paltrinieri, E., Kaufman, R.J., & Chen, J.-J. (2018). HRI coordinates translation by eIF2 α P and mTORC1 to mitigate ineffective erythropoiesis in mice during iron deficiency. *Blood* 131 : 450–461. Available at: <https://doi.org/10.1182/blood-2017-08-799908>

Zivot, A., Lipton, J.M., Narla, A., & Blanc, L. (2018). Erythropoiesis: insights into pathophysiology and treatments in 2017. *Mol. Med.* 24 : 11. Available at: <https://doi.org/10.1186/s10020-018-0011-z>