

DAFTAR PUSTAKA

- Adam, I., Ibrahim, Y. and Elhardello, O. 2018. Prevalence, types and determinants of anemia among pregnant women in Sudan: a systematic review and meta-analysis. *BMC Hematol*; 18: 31
- Agrawala, S. et al. (2019) 'Effect of preconception low dose aspirin on pregnancy and live birth according to socioeconomic status: A secondary analysis of a randomized clinical trial', *PLoS ONE*, 14(4), pp. 1–14.
- Ajedi, A. S. S. et al. (2019) 'Immunomodulatory effect of *Moringa oleifera* and *Marrubium vulgare* leaf aqueous extracts in BALB/c mice infected with *Salmonella typhimurium*', *Drug Invention Today*, 12(4), pp. 690–700.
- Amat, B. et al., 2017. Serum Hepsidin Concentrations Decline during Pregnancy and May Identify Iron Deficiency: Analysis of a Longitudinal Pregnancy Cohort in The Gambia. *J Nutr*. 2017 Jun; 147(6): 1131–1137.
- Andrews, N.C., 2004. Iron Deficiency and Related Disorders. In: Greer GM, Paraskevas F, Glader B (editors). *Wintrobe's Clinical Hematology*. Edisi ke-11. Philadelphia: Lippincot, Williams, Wilkins, hlm. 947-1009.
- Ani, L.S., et al., 2018. Kadar Feritin Serum Dan Hemoglobin Pada Wanita Pasangan Pengantin Baru Di Bali. *Jurnal Gizi dan Pangan*, Maret, 5(1): 26 – 30.
- Anjarwati and Septiana, A., 2016. Hubungan Dukungan Suami Dengan Kepatuhan Ibu Hamil Dalam Mengkonsumsi Tablet Fe Di Puskesmas Jetis Yogyakarta *Jurnal Ilmiah Bidan*, Vol.I, No.3, 2016. 19-25
- Annadurai, K., Mani, G. and Danasekaran, R. (2017) 'Preconception care : A pragmatic approach for planned pregnancy', pp. 2016–2017. doi: 10.4103/1735-1995.200268.
- Ariestiningsih, A. (2017) *Gizi Prakonsepsi, Kehamilan, dan Menyusui*. Malang: UB.Press.
- Arini (2018) 'Pengaruh Pemberian Tepung Daun Kelor (*Moringa Oleifera Leaves*) Terhadap Peningkatan Kadar Hemoglobin Pada Remaja Putri Di Kecamatan Tamalatea Kabupaten Jeneponto', *Universitas Hasanuddin*.
- Ariyani, R., 2016. Faktor-Faktor Yang Mempengaruhi Kejadian Anemia Pada Ibu Hamil Trimester III Di Wilayah Kerja Puskesmas Mojolaban Kabupaten Sukoharjo. Skripsi. Universitas Muhammadiyah Surakarta.
- Arosio, P., Elia, L., and Poli, M., 2017. Feritin, cellular iron storage and regulation. *IUBMB Life*;69(6):414-422. doi: 10.1002/iub.1621. Epub 2017 Mar 27. PMID: 28349628
- Asyirah. 2012. Faktor-faktor yang berhubungan dengan anemia pada ibu hamil di wilayah kerja Puskesmas Bajeng di Kecamatan Bajeng KABUPATEN

- Gowa tahun 2012. Skripsi.Universitas Indonesia.
- Badawi, Y., Elsawy, M. and Ramadan, N. (2017) 'Impact Of Dietary Supplementation With Moringa (Moringa Oleifera) On Productive Performance, Physiological Response And Immunity Of Growing Rabbits', *Egyptian Journal of Rabbit Science*, 27(2), pp. 325–339. doi: 10.21608/ejrs.2017.46581.
- Bain, B.J., 2006. Blood Cells a Practical Guide. Edisi ke-4. Massachusetts: Blackwell Publishing; hlm. 30-53.
- Baratawidjaja, K. . and Rengganis, I. (2010) *Imunologi Dasar. Edisi ke-9.* 9th edn. Jakarta: Balai Penerbit Fakultas Kedokteran Universitas Indonesia.
- Bardosono, S. (2015) *Gizi Prakonsepsi: Investasi Penting sebelum Kehamilan.* Jakarta: FKM.UI.
- Barichella, M. et al. (2019) 'Nutritional characterisation of Zambian Moringa oleifera: acceptability and safety of short-term daily supplementation in a group of malnourished girls', *International Journal of Food Sciences and Nutrition.* Informa UK Ltd., 70(1), pp. 107–115. doi: 10.1080/09637486.2018.1475550.
- Basri, H. et al. (2021) 'Effect of moringa oleifera supplementation during pregnancy on the prevention of stunted growth in children between the ages of 36 to 42 months', *Journal of Public Health Research*, 10(2), pp. 290–295. doi: 10.4081/jphr.2021.2207.
- Baxter, J. A. B. et al. (2018) 'Effect of life skills building education and micronutrient supplements provided from preconception versus the standard of care on low birth weight births among adolescent and young Pakistani women (15-24 years): A prospective, population-based cluster-ran', *Reproductive Health.* Reproductive Health, 15(1), pp. 1–9. doi: 10.1186/s12978-018-0545-0.
- Bisoi, S., et al., 2011. The Journal of Famiy Welfare: Correlates Of Anemia Among Pregnant Women In A Rural Area Of West Bengal. India.
- Blanco-Rojo, R. et al. (2014) 'Influence of diet, menstruation and genetic factors on iron status: A cross-sectional study in Spanish women of childbearing age', *International Journal of Molecular Sciences*, 15(3), pp. 4077–4087. doi: 10.3390/ijms15034077.
- Bulkis, A.S., 2013. Hubungan Pola Konsumsi Dengan Status Hemoglobin Pada Ibu Hamil Di Kabupaten Gowa. Skripsi. Fakultas Kesehatan Masyarakat Universitas Hasanuddin Makassar,
- Cetin, I., Berti, C. and Calabrese, S., 2009. 'Role of micronutrients in the periconceptional period', *Human Reproduction Update*, 16(1), pp. 80–95. doi: 10.1093/humupd/dmp025.
- Chełchowska, M., Ambroszkiewicz, J., Gajewska, J. et al., 2016. Hepcidin and Iron Metabolism in Pregnancy: Correlation with Smoking and Birth

- Weight and Length. *Biol Trace Elem Res* 173, 14–20. <https://doi.org/10.1007/s12011-016-0621-7>
- Chowdhury, S., Rahman, M. and Moniruddin, A.B.M., 2014. Anemia in Pregnancy. *Medicine today*; 26 (01).
- Christian, P. et al. (2013) 'Risk of childhood undernutrition related to small-for-gestational age and preterm birth in low- and middle-income countries', *International Journal of Epidemiology*, 42(5), pp. 1340–1355. doi: 10.1093/ije/dyt109.
- Dang, S. et al. (2014) 'The Status of Vitamin B12 and Folate among Chinese Women: A Population-Based Cross-Sectional Study in Northwest China', *PLoS ONE*, 9(11), pp. 1–8. doi: 10.1371/journal.pone.0112586.
- Dean, S. V. et al. (2014) 'Preconception care: Nutritional risks and interventions', *Reproductive Health*, 11(Suppl 3), pp. 1–15. doi: 10.1186/1742-4755-11-S3-S3.
- Demir, C, Kocaman, C. E, & Dilek, I. 2009. Serum Feritin Levels in Pregnancy. *Balkan Med J* 2011; 28: 23-25 • DOI: 10.5174/tufd. 02917.1 © Trakya University Faculty of Medicine. 23-25
- Dhaded, S. M. et al. (2020) 'Preconception nutrition intervention improved birth length and reduced stunting and wasting in newborns in South Asia: The Women First Randomized Controlled Trial', *PLoS ONE*, 15(1), pp. 1–15. doi: 10.1371/journal.pone.0218960.
- Dhanjal, M. K. (2018) 'Pre - conception Counselling - Purpose of pre - conception counselling', pp. 38–46.
- Fatkhiyah, N., 2018, Faktor Risiko Kejadian Anemia Pada Ibu Hamil (Studi Di Wilayah Kerja Puskesmas Slawi Kab. Tegal), Indonesia Jurnal Kebidanan: 2(2)
- Farooq Anwar, Sajid Latif, M. A. and A. H. G. (2007) 'Moringa oleifera: A Food Plant with Multiple Medicinal Uses', *Phytotherapy research*, 21(november 2006), pp. 17–25. doi: 10.1002/ptr.
- Figueiredo, A.C.M.G., et al. 2018. Maternal Anemia and Low Birth Weight: A Systematic Review and Meta-Analysis. *Nutrients*; 10(5): 601
- Fuglie, L. J. (2004) 'THE MORINGA TREE A local solution to malnutrition ?', (221).
- Ganz, T & Nemeth, E. 2012. Review Hepsidin and iron homeostasis. *Biochimica et Biophysica Acta (BBA) - Molecular Cell Research Volume 1823, Pages 1434-1443*
- Gkouvatsos, K., Papanikolaou, G., and Pantopoulos, K., 2012. Regulation of iron transport and the role of transferin. *Biochim Biophys Acta.:1820:188- 202.*
- Gopalakrishnan, L., Doriya, K. and Kumar, D. S. (2016) 'Moringa oleifera: A

- review on nutritive importance and its medicinal application', *Food Science and Human Wellness*. Beijing Academy of Food Sciences., 5(2), pp. 49–56. doi: 10.1016/j.fshw.2016.04.001.
- Grace, S., et al. 2018. Anaemia in Pregnancy: Prevalence, Risk Factors, and Adverse Perinatal Outcomes in Northern Tanzania. Hindawi; (9)
- Gunaratna, N. S. et al. 2015. 'Multivitamin and iron supplementation to prevent periconceptional anemia in rural Tanzanian women: A randomized, controlled trial', *PLoS ONE*, 10(4), pp. 1–15. doi: 10.1371/journal.pone.0121552.
- Hadju, V. et al. 2013. 'Pengaruh Pemberian Ekstrak Daun Kelor Kepada Ibu Hamil Pekerja Sektor Informal Terhadap Stress Kerja, Status Gizi, Krusakan DNA, Dan Pertumbuhan Bayi', (0411).
- Haerani, H. 2023. Luaran Kehamilan Pada Ibu Hamil Dengan Intervensi Ekstrak Daun Kelor Yang Terpapar Asap Rokok Di Kecamatan Polombangkeng Utara, Takalar. Disertasi. Makassar. Universitas Hasanuddin.
- Hambidge, K. M. et al. 2014. 'gizi ibu prakonsepsi: multi-situs percobaan terkontrol acak', pp. 1–16.
- Hanieh, S. et al. 2013. 'The Effect of Intermittent Antenatal Iron Supplementation on Maternal and Infant Outcomes in Rural Viet Nam : A Cluster Randomised Trial', 10(6). doi: 10.1371/journal.pmed.1001470.
- Harmening, D., 2009. Iron metabolism and Hypochromic Anemias. Dalam: Harmening D, editor. Clinical Hematology and Fundamental of hemostasis. USA:Philadelphia. hlm. 124-5.
- Hasan Syah, M.N., et al. 2018. Asupan Gizi Pada Ibu hamil Anemia dan Kadar Feritin Rendah. <http://stikesmitrakeluarga.ac.id> › 2018/05 › 8.pdf
- Hasliani, A. (2015) 'Uji Manfaat Kapsul Kelor Untuk Pengobatan Anemia Pada Ibu Hamil di Puskesmas Padang Lampe dan Minasa Te'ne Kabupaten Pangkep', *Jurnal Kebidanan Vokasional*, pp. 1–7.
- Hermansyah, Hadju, V. and Bahar, B. (2014) 'Ekstrak Daun Kelor Terhadap Peningkatan Asupan dan Berat Badan Ibu Hamil Pekerja Sektor Informal', *Jurnal Ilmu Kesehatan Masyarakat*, 5(November), pp. 192–201.
- Hernandez-medrano, J. H., Copping, K. J. and Hoare, A. (2015) 'Gestational Dietary Protein Is Associated with Sex Specific Decrease in Blood Flow , Fetal Heart Growth and Post-Natal Blood Pressure of Progeny', *PLoS ONE*, 10(4), pp. 1–17. doi: 10.1371/journal.pone.0125694.
- Hoffbrand AV, Moss PA, Pettit JE. 2006. Erythropoiesis and General Aspects of Anaemia. Dalam : Essential Haematology. Edisi ke5. Massachusetts: Blackwell Publishing; hlm. 12-42

- Hoffbrand, A. (2013) 'Kapita Selektum Hematologi (Terjemahan)'. Jakarta: EGC, p. EDISI 6.
- Hussein, N., Kai, J. and Qureshi, N. (2015) 'The effects of preconception interventions on improving reproductive health and pregnancy outcomes in primary care: A systematic review', *European Journal of General Practice*, 4788(December). doi: 10.3109/13814788.2015.1099039.
- Idohou-dossou, N. (2011) 'Moringa Oleifera: Bioavailability and impact of daily consumption of dried leaf powder on iron status of anaemia lactating wo', 11(4), pp. 4985–4999.
- Indrayani, U.D. et al., 2019. The Effects Comparisons of Sauvagea androgynous, Moringa oleifera alone and in combination on iron deficiency in anemia rats. *Bangladesh Journal of Medical Science*: 18 (01)
- Irianto, K. 2014. Gizi Seimbang dalam Kesehatan Reproduksi. Balanced Nutrition in Reproductive Health. Bandung : Alfabeta.
- Iskandar, I. et al. (2015) 'Effect of Moringa Oleifera Leaf Extracts Supplementation in Preventing Maternal Anemia and Low-Birth-Weight', *International Journal of Scientific and Research Publications*, 5(1), pp. 2250–3153. Available at: www.ijrsp.org.
- Jonni, M., Sitorus and Katharina, N. (2012) *Cegah Malnutrisi dengan Kelor*. Yogyakarta: Kansius.
- Jourabchi, Z. et al. (2019) 'Association Between Preconception Care and Birth Outcomes', *American Journal of Health Promotion*, 33(3), pp. 363–371. doi: 10.1177/0890117118779808.
- Kalaiselvi, V. et al. (2018) 'Microwave assisted green synthesis of Hydroxyapatite nanorods using Moringa oleifera flower extract and its antimicrobial applications', *International Journal of Veterinary Science and Medicine*. Elsevier B.V., (June), pp. 1–10. doi: 10.1016/j.ijvsm.2018.08.003.
- Kasim, F. (2016) 'Pengaruh Biscuit Daun Kelor Pada Ibu Hamil KEK Terhadap Peningkatan Berat Badan Dan LLA Di Kecamatan Bontoramba Kab. Jeneponto'. Makassar: Universitas Hasanuddin.
- Kattalin, A., 2011. Optimal Management of Iron Deficiency Anemia due to poor dietary. *International Journal of General medicine*.:741-50
- Kemenkes RI. 2014. Profil Kesehatan Indonesia Tahun 2013. Jakarta: Kemenkes RI
- Kemenkes (2015) 'Kesehatan Keluarga'. Jakarta: Kementerian Kesehatan RI.
- Kevin, M., 2016. Korelasi Kadar hepsidin serum dengan Indeks Massa Tubuh dan Lingkar Pinggang. Universitas Diponegoro.

- Khuzaimah, A. et al. (2015) 'Effect of Honey and Moringa Oleifera Leaf Extracts Supplementation for Preventing DNA Damage in Passive Smoking Pregnancy', 24(1), pp. 138–145.
- Koenig, M.D., et al., 2014. Hepsidin and iron homeostasis during pregnancy. *Nutrients*. Aug 4;6(8):3062-83. doi: 10.3390/nu6083062. PMID: 25093277; PMCID: PMC4145295.
- Koning, I. V et al. 2015 'Periconception Maternal Folate Status and Human Embryonic Cerebellum Growth Trajectories: The Rotterdam Predict Study', *PLoS ONE*, 10(10), pp. 1–13. doi: 10.1371/journal.pone.0141089.
- Kou X, et al., 2018. Nutraceutical or Pharmacological Potential of Moringa oleifera Lam. *Nutrients*. 10(3): 343.
- Kurniati, I., 2020. Anemia Defisiensi Zat Besi (Fe). JK Unila | Volume 4 | Nomor 1: 18-33.
- Kushwaha, S., Chawla, P. and Kochhar, A. (2012) 'Effect of supplementation of drumstick (Moringa oleifera) and amaranth (Amaranthus tricolor) leaves powder on antioxidant profile and oxidative status among postmenopausal women'. doi: 10.1007/s13197-012-0859-9.
- Laposata M. Disease of Red blood Cell. dalam The Diagnosis of Disease in The clinical laboratory. Mc Groww Hill Medical. hlm. 218-9
- Lara, A.F. 2018. Anemia in pregnancy. MSD manual professional version.
- Leone, A. et al. (2016) 'Moringa oleifera Seeds and Oil : Characteristics and Uses for Human Health', *International journal of molecular science*, (17), pp. 1–14. doi: 10.3390/ijms17122141.
- Lewis, S. et al. (2010) 'Vitamin D deficiency and pregnancy: From preconception to birth', *Molecular Nutrition and Food Research*, 54(8), pp. 1092–1102. doi: 10.1002/mnfr.201000044.
- Ma, Q. et al. (2017) 'Study on the prevalence of severe anemia among non-pregnant women of reproductive age in rural China: A large population-based cross-sectional study', *Nutrients*, 9(12). doi: 10.3390/nu9121298.
- Mahmood, K. T., Mugal, T. and Haq, I. U. (2010) 'Moringa oleifera: A natural gift-a review', *Journal of Pharmaceutical Sciences and Research*, 2(11), pp. 775–781. doi: <https://doi.org/10.1016/B978-0-12-800070-0.00018-9>.
- Malek, L. et al. (2016) 'Poor adherence to folic acid and iodine supplement recommendations in preconception and pregnancy: a cross-sectional analysis', *Australian and New Zealand Journal of Public Health*, 40(5), pp. 424–429. doi: 10.1111/1753-6405.12552.
- Mandasari, M., Hadju, V. and Ariyandy, A. (2020) 'The effect of giving extracted moringa oleifera leaves plus royal jelly supplement on infant weight and length of new born of anemia pregnant woman in Takalar district', *European Journal of Molecular and Clinical Medicine*, 7(7)

- Manikandaselvi, S. and Nithya, V., 2011 'Development and Biochemical Analysis of Iron Supplementary Nutraceuticals From Moringa Oleifera and Amaranthus Polygonoides', *Adv. Pharmacol. Toxicol.*, 12(3), pp. 47–51.
- Martina, M., et al. 2018. Does body mass index early in pregnancy influence the risk of maternal anaemia? An observational study in Indonesian and Ghanaian women. *BMC Public Health*; 18:873
- Masruroh, N. and Nugraha, G., 2020. Hubungan antara Karakteristik dengan kadar feritin pada iub hamil trimester III di PUSkesmas Jagir Surabaya. *Jurnal Sehat Mandiri*;15(2)
- Mazza, D., Chapman, A. and Michie, S. (2013) 'Barriers to the implementation of preconception care guidelines as perceived by general practitioners : a qualitative study', *BMC Public Health*, 13(36), pp. 1–8.
- McKenna, E. et al. (2017) 'Dietary supplement use during preconception: The Australian longitudinal study on women's health', *Nutrients*, 9(10), pp. 1–12. doi: 10.3390/nu9101119.
- Milman, N. et al. (2016) 'Supplementation during pregnancy: beliefs and science', 3590(March). doi: 10.3109/09513590.2016.1149161.
- Miranti, 2022. The Role Of Sanitation Factors And Neutrophil Lymphocyte Ratio (Nlr) On Pregnancy Outcomes In Pregnant Women Receiving Moringa Oleifera Leaf Extract Since Preconception In Takalar District. Disertasi. Makassar. Hasanuddin University.
- Mistry, H. D. and Williams, P. J. (2011) 'The importance of antioxidant micronutrients in pregnancy', *Oxidative Medicine and Cellular Longevity*, 2011. doi: 10.1155/2011/841749.
- Moos, M. et al. (2008) 'Healthier women , healthier reproductive outcomes : recommendations for the routine care of all women of reproductive age', *American Journal of Obstetrics & Gynecology*, (December), pp. 1–10. doi: 10.1016/j.ajog.2008.08.060.
- Morse, N. (2015) 'Health benefits of maternal supplementation with docosahexaenoic acid , folic acid , vitamin D and iodine during pregnancy and lactation for foetal and infant brain development and function', 27(2), pp. 31–35. doi: 10.1002/lite.201500001.
- Muis, M. et al. (2014) 'Effect of Moringa leaves extract on occupational stress and nutritional status of pregnant women informal sector workers', *International journal of current research and academic review*, 2(11), pp. 86–92.
- Nadimin et al. (2015) 'The Extract of Moringa Leaf Has an Equivalent Effect to Iron Folic Acid in Increasing Hemoglobin Levels of Pregnant Women: A randomized Control Study in the Coastal Area of Makassar', *International Journal of Sciences: Basic and Applied Research (IJSBAR)*, 22(1), 287-294

- Nestel P and Davidson L, 2012. Anemia, Iron Deficiency and Iron Deficiency Anemia, The International Nutritional Anemia Consultative Group (INACG). USA
- Nguyen, P. H. et al. (2016) 'Impact of preconception micronutrient supplementation on anemia and iron status during pregnancy and postpartum: A randomized controlled trial in Rural Vietnam', *PLoS ONE*, 11(12), pp. 1–16. doi: 10.1371/journal.pone.0167416.
- Nisar, Y. Bin, Aguayo, V. M. and Dibley, M. J. (2017) 'Antenatal iron-folic acid supplementation improves linear growth and reduces the risk of being stunted or severely stunted in South Asian children less than two years of age: a pooled analysis from seven countries', *Journal of Chemical Information and Modeling*, 8(9), pp. 1–25. doi: 10.1017/CBO9781107415324.004.
- Nisar, Y. Bin, Dibley, M. J. and Aguayo, V. M. (2016) 'Iron-folic acid supplementation during pregnancy reduces the risk of stunting in children less than 2 years of age: A retrospective cohort study from Nepal', *Nutrients*, 8(2), pp. 1–16. doi: 10.3390/nu8020067.
- Nnam, N. M. (2009) 'Moringa oleifera leaf improves iron status of infants 6 – 12 months in Nigeria', 2(2), pp. 158–164.
- Nurdin, M. S. et al. (2018) 'Supplementations on Pregnant Women and the Potential of Moringa Oleifera Supplement to Prevent Adverse Pregnancy Outcome', 3(March), pp. 71–75.
- Nurdin, S. (2018) 'Efek Pemberian Moringa Oleifera Dalam Pencegahan Anemia dan Penurunan Kejadian BBLR Di Kabupaten Jeneponto'. Makassar: Disertasi.
- Nurhayati, A. (2006) 'Hubungan Pola Makan, Tingkat Kecukupan Protein, Besi, dan Vitamin C dengan Kadar Hemoglobin pada Remaja Putri (Studi pada Siswi SMUN 9 Semarang Tahun 2006)', 33, pp. 16–18. doi: 10.19744/j.cnki.11-1235/f.2006.09.027.
- Nurhidayati, R.D., 2013. Analisis Faktor Penyebab Terjadinya Anemia Pada Ibu Hamil Diwilayah Kerja Puskesmas Tawangsari Kabupaten Sukoharjo. Skripsi. S1 Keperawatan Fakultas Ilmu Kesehatan Universitas Muhammadiyah Surakarta.
- Nurul, H., 2021. Efek Pemberian Tablet Zat Besi (Fe) Dan Teh Daun Kelor Moringa Oleifera Tea) Terhadap Kadar Hemoglobin (Hb) Dan Kadar Hepsidin Pada Ibu Hamil. Tesis. Universitas hasanuddin.
- Ogilvie, C., and Fitzsimons, E.. 2012. Serum ferritin and iron studies-laboratory reporting and clinical application in primary care. Dalam : Capelli O, penyunting. Primary care at a glance. Edisi ke-6. Indonesia: Jakarta. h. 165-74
- Padayachee, B. and Baijnath, H. (2019) 'An updated comprehensive review of the medicinal, phytochemical and pharmacological properties of

- Moringa oleifera', *South African Journal of Botany*, (August). doi: 10.1016/j.sajb.2019.08.021.
- Pagana KD, Pagana TJ . Mosby's Manual of Diagnostic and Laboratory Tests, Edisi ke-4. St. Louis: Mosby Elsevier; 2010.hlm.246-8.
- Parisi, F. et al. (2018) 'Periconceptional maternal dairy-rich dietary pattern is associated with prenatal cerebellar growth', 02(13(5)), pp. 1–14.
- Parks, S., et al. 2019. Maternal anaemia and maternal, fetal, and neonatal outcomes in a prospective cohort study in India and Pakistan. BJOG May ; 126(6): 737–743.
- Pasalina, P.E & Faisal, A.D. 2020. Hepsidin Sebagai Biomarker Anemia Pada Ibu Hamil . Jurnal kesehatan - Volume 11 NOMOR 3:382 - 386
- Peter, V., et al. 2018. Normal and pathological erythropoiesis in adults: from gene regulation to targeted treatment concepts. *Haematologica*; 103(10):1593-1603.
- Pilotos, J. et al. (2020) 'Moringa oleifera treatment increases Tbet expression in CD4+ T cells and remedies immune defects of malnutrition in Plasmodium chabaudi-infected mice', *Malaria Journal*. BioMed Central, 19(1), pp. 1–16. doi: 10.1186/s12936-020-3129-8.
- Ponomban, S. S. et al. (2013) 'Efektivitas Terpapar Bubuk Daun Kelor (Moringa oleifera) Terhadap Peningkatan Kadar Hemoglobin Pada Ibu Hamil Yang Menderita Anemia', 5(1), pp. 36–44.
- Proverawati, A. 2011. Anemia dan Anemia kehamilan. Yogyakarta : Nuha Medika.
- Purwaningtyas, M.L., Prameswari, G.N., 2017. Faktor Kejadian Anemia Pada Ibu Hamil. HIGEIA 1 (3)
- Purwanto, D.S. 2012. Peran Hepsidin Sebagai Regulator Metabolisme Besi. Jurnal Biomedik, Volume 4, Nomor 2, hlm. 88-95
- Rahayu, N.R., 2022. The Effect Of Moringa Oleifera Leaf Extract For Praconception Women Of Pregnancy Outcomes In North Polongbangkeng, Takalar. Disertasi, Makassar. Hasanuddin University
- Rahma, 2023. The Effect Of Moringa Leaf Extract Intervention Since Periconceptional Period On Mda (Malondialdehyde) And Cortisol Levels In Pregnant Women With Pregnancy Outcomes In Takalar District. Disetraisi. Makassar. Hasanuddin University.
- Rahmawati, M. and daryanti, M.S., 2017. Pengaruh Ekstrak Daun Kelor terhadap peningkatan kadar Hemoglobin Ibu Hamil Trimester 2 dan 3 di Puskesmas Semanu I. Naskah Publikasi. Universitas 'Aisyiyah Yogyakarta
- Raimunda, B. et al. (2017) 'Research advances on the multiple uses of Moringa oleifera: A sustainable alternative for socially neglected population',

- asian pacific journal of tropical medicine*, 10(7), pp. 621–630. doi: 10.1016/j.apjtm.2017.07.002.
- Ramakrishnan, U. et al. (2016) ‘Neither Preconceptional Weekly Multiple Micronutrient nor Iron–Folic Acid Supplements Affect Birth Size and Gestational Age Compared with a Folic Acid Supplement Alone in Rural Vietnamese Women: A Randomized Controlled Trial’, *The Journal of Nutrition*, 146(7), p. 1445S–1452S. doi: 10.3945/jn.115.223420.
- Rasyid, I.M., 2021. Analisis kadar Hepsidin Pada Obesitas Sentral dan Non Obeis. Universitas Hasanuddin.
- Ratnasiri, A. W. G. et al. (2018) ‘Recent trends , risk factors , and disparities in low birth weight in California , 2005 – 2014 : a retrospective study’. *Maternal Health, Neonatology and Perinatology*, pp. 1–13.
- Ravishankar, S., et al. 2019. Prospective study on prevalence of anemia of pregnant women and its outcome:A community based study. *Journal of Family Medicine and Primary Care*; 6 (4). 739-43
- Reynolds, A. N. and Skeaff, S. A. (2017) ‘Maternal adherence with recommendations for folic acid and iodine supplements: A cross- -sectional survey’, (February), pp. 1–3. doi: 10.1111/ajo.12719.
- Ridha, N.R., 2013. The Role of Hepcidin to Iron Homeostasis Disorder in Inflammatory due to Obese Children (A Study of iron homeostasis disorder in child obesity). Tesis. Faculty of Medicine Hasanuddin University.
- Ririn, R. 2021. Hubungan asupan zat besi dan vitamin A dengan kadar feritin ibu hamil anemia defisiensi zat besi trimester III. Universitas Andalas.
- RISKESDAS (2018) ‘Hasil Utama Riset Kesehatan Dasar’, *Kementrian Kesehatan Republik Indonesia*, pp. 1–100. Available at: <http://www.depkes.go.id/resources/download/info-terkini/hasil-riskesdas-2018.pdf>.
- Rosario, C., et al. 2013. Feritin in the antiphospholipid syndrome and its catastrophic variant (cAPS). *Lupus* (22), 1327–1335. Downloaded from lup.sagepub.com at SHEBA MEDICAL CENTER
- Rusdi, P.H.N., Oenzil, F. and Chundrayetti. 2018. Pengaruh Pemberian Jus Jambu Biji Merah (Psidium Guajava.L) Terhadap Kadar Hemoglobin dan Feritin Serum Penderita Anemia Remaja Putri.Jurnal Kesehatan Andalas.;7(1)
- SA Health, 2016. South Australian Maternal & Neonatal Community of Practice. Polic clinical guidline anemia in pregnancy.
- Sackey, J. A. (2017) ‘The preconception office visit’, pp. 1–33.
- Saidah, W., et al. 2017. Anemia in pregnancy in Western Jamaica. *International Journal of Women’s Health*; (9): 431–439.

- Saini, R. K. et al. (2014) 'Dietary iron supplements and Moringa oleifera leaves influence the liver hepsidin messenger RNA expression and biochemical indices of iron status in rats', *Nutrition Research*. Elsevier Inc., 34(7), pp. 630–638. doi: 10.1016/j.nutres.2014.07.003.
- Santi, S. and Kharisah, D., 2017. Faktor-Faktor Yang Mempengaruhi Kejadian Anemia Pada Ibu Hamil Di Puskesmas Wirobrajan. Skripsi. Universitas 'Aisyiyah Yogyakarta.
- Sirlii, D., 2017, Perbedaan Kadar Hepsidin Dan Ferritin Pada Ibu Hamil Anemia Dan Tidak Anemia. Tesis. Padang. Universitas Andalas
- Sindhu, S., Mangala and Sherry (2013) 'Efficacy Of Moringa Oleifera In Treating Iron Deficiency Anemia In Women Of Reproductive Age Group', *International Journal Of Phytotherapy Research*, 3(4), pp. 15–20.
- Smith, E.R., et al. 2017. Modifiers of the effect of maternal multiple micronutrient supplementation on stillbirth, birth outcomes, and infant mortality: a meta-analysis of individual patient data from 17 randomised trials in low-income and middle-income countries. <https://jhu.pure.elsevier.com/en/publications/modifiers-of-the-effect-of-maternal-multiple-micronutrient-supple>.
- Sofiantin, N., 2021. Analisis kadar Feritin, TIBC Dan Fe Serum Pada Obesitas Sentral Dan Non Obesitas Sentral. Universitas Hasanuddin.
- Srikanth, V. S., Mangala, S. and Subrahmanyam, G. (2014) 'Improvement of Protein Energy Malnutrition by Nutritional Intervention with Moringa Oleifera among Anganwadi Children in Rural Area in Bangalore , India', *international journal of scientific study*, 2(1), pp. 32–35.
- Stephenson, J. et al. (2014) 'How Do Women Prepare for Pregnancy ? Preconception Experiences of Women Attending Antenatal Services and Views of Health Professionals', *PLoS ONE*, 9(7), pp. 1–10. doi: 10.1371/journal.pone.0103085.
- Stephenson, J. et al. (2018) 'Before the beginning: nutrition and lifestyle in the preconception period and its importance for future health', *The Lancet*. Elsevier Ltd, 391(10132), pp. 1830–1841. doi: 10.1016/S0140-6736(18)30311-8.
- Subekti, Y & Setyawati., 2014. Korelasi Kadar Hepcidin Serum Dengan Kadar Feritin Serum Pada Populasi Ibu Hamil. Tesis. Jogjakarta. UGM
- Sugma, 2015. Hubungan Keteraturan ANC dengan Kejadian Anemia di Puskesmas Kasihan I Bantul Yogyakarta. Naskah Publikasi. Prodi Bidan Pendidik (DIV) STIKes 'Aisyiyah Yogyakarta
- Sulistyawati, A. (2012). Asuhan Kebidanan Pada Masa kehamilan. Jakarta : Salemba Medika.
- Sulistyoningsih and Hariyani. 2011. Gizi: Untuk Kesehatan Ibu dan Anak. Yogyakarta: Penerbit Graha

- Susilowati and Kuspriyanto (2016) *Gizi Dalam Daur Kehidupan*. Bandung: PT. Refika Aditama.
- Suzana, D. et al. (2017) 'Effect of Moringa oleifera Leaves Extract Against Hematology and Blood Biochemical Value of Patients with Iron Deficiency Anemia', *Journal of Young Pharmacists*, 9(1s), pp. s79–s84. doi: 10.5530/jyp.2017.1s.20.
- Temel, S. et al. (2015) 'Knowledge on preconceptional folic acid supplementation and intention to seek for preconception care among men and women in an urban city: A population-based cross-sectional study', *BMC Pregnancy and Childbirth*, 15(1). doi: 10.1186/s12884-015-0774-y.
- Tiloke, C. et al. 2018 'Moringa oleifera and their phytonanoparticles: Potential antiproliferative agents against cancer', *Biomedicine and Pharmacotherapy*. Elsevier, 108(April), pp. 457–466. doi: 10.1016/j.biopha.2018.09.060.
- Tinna, I., Sinrang, W. and Nilawati., 2018. Pengaruh Pemberian Tepung Daun Kelor (Moringa Oleifera Leaves) Terhadap Peningkatan Kadar Eritrosit Pada Ibu Hamil Anemia. Tesis. Universitas hasanuddin.
- Toivonen, K. I. et al. (2018) 'Folic acid supplementation during the preconception period: A systematic review and meta-analysis', *Preventive Medicine*. Elsevier, 114(October 2017), pp. 1–17. doi: 10.1016/j.ypmed.2018.05.023.
- Toxqui, L. et al. (2011) 'Efficacy of a microencapsulated iron pyrophosphate-fortified fruit juice: a randomised , double-blind , placebo-controlled study in Spanish iron-deficient women British Journal of Nutrition', pp. 1652–1659. doi: 10.1017/S0007114510005490.
- Tshabalala, T. et al. (2019) 'South African Journal of Botany Potential substitution of the root with the leaf in the use of Moringa oleifera for antimicrobial , antidiabetic and antioxidant properties', *South African Journal of Botany*. South African Association of Botanists, pp. 1–7. doi: 10.1016/j.sajb.2019.01.029.
- Tshingani, K. et al. (2017) 'Impact of Moringa oleifera Lam. Leaf powder supplementation versus nutritional counseling on the body mass index and immune response of HIV patients on antiretroviral therapy: A single-blind randomized control trial', *BMC Complementary and Alternative Medicine*. BMC Complementary and Alternative Medicine, 17(1), pp. 1–13. doi: 10.1186/s12906-017-1920-z.
- Ulmy, M. N. et al. (2020) 'Effect of moringa leaves during pregnancy on growth and morbidity in 0–5 months', *Enfermeria Clinica*, 30, pp. 61– 65. doi: 10.1016/j.enfcli.2019.10.041.
- Umbreit, J., 2005. Iron deficiency:a concise review. Am J Hematol;78:225-31
- Vanamala, V. G., et al. 2018. Incidence and outcome of anemia in pregnant

- women: a study in a tertiary care centre. *Int J Reprod Contracept Obstet Gynecol.*;7(2):462-466.
- Wati, D.W., Febry, F. and Rahmiwati, A., 2016. Faktor-Faktor Yang Berhubungan Dengan Defisiensi Zat Besi Pada Ibu Hamil Di Wilayah Kerja Puskesmas Gandus Palembang. *Jurnal Ilmu Kesehatan Masyarakat* Volume 7:1.
- Watkins, A. J. et al. (2011) 'Maternal Periconceptional and Gestational Low Protein Diet Affects Mouse Offspring Growth , Cardiovascular and Adipose Phenotype at 1 Year of Age', *PLoS ONE*, 6(12), pp. 1–12. doi: 10.1371/journal.pone.0028745.
- WHO, 2015. The Global Prevalence of Anaemia in 2011. World Health Organization; Geneva, Switzerland).
- Widasari, L. (2018) 'Efek Terpapar Multimikro Nutrient (MMN) Pada Periode Prakonsepsi Terhadap Status Kehamilan, Kadar VEGF, SFIT-I Dan PL-GH Serum Maternal Dan Outcome Kehamilan.' makassar: Disertasi.
- Wysocka, J. and Turowski D., 2010. New Reticulocyte Indices and Their Utility in Hematologic Diagnosis. *Pol Merkur Lekarski* [abstract]. [diunduh 2 Februari2011]. Tersedia dari: PubMed. <http://www.ncbi.nlm.nih.gov/pubmed/ 11070726>
- Young, M. F. et al. (2017) 'Role of preconception nutrition in offspring growth and risk of stunting across the first 1000 days in Vietnam', *PloS one*, 71(Supplement 2), p. 538. doi: 10.1159/000480486.
- Yulianti, H., Hadju, V. and Alasiry, E. (2016) 'Pengaruh Ekstrak Daun Kelor Terhadap Peningkatan Kadar Haemoglobin Pada Remaja Putri Di SMU Muhammadiyah Kupang', *JST Kesehatan*, 6(3), pp. 399–404.
- Zakaria et al. (2016) 'Effect of Extract Moringa Oleifera on Quantity and Quality of Breastmilk In Lactating Mothers, Infants 0-6 Month', *jurnal MKMI*, 12(3), pp. 161–169.
- Zeng, B. et al. (2019) 'The beneficial effects of Moringa oleifera leaf on reproductive performance in mice', (July 2018), pp. 1–9. doi: 10.1002/fsn3.918.
- Zongo, U. et al. (2018) 'Effect of Moringa Leaves Powder Consumption on Young Children Nutritional and Serum Retinol Status in Burkina Faso Rural Area', 7(4), pp. 148–154. doi: 10.11648/j.ijnfbs.20180704.16.

LAMPIRAN 1

INFORM CONSENT

PERAN FAKTOR SANITASI DAN *NEUTROFIL LIMFOSIT RATIO (NLR)* TERHADAP LUARAN KEHAMILAN PADA IBU HAMIL YANG MENERIMA EKSTRAK DAUN KELOR (*Moringa oleifera*) SEJAK MASA PRAKONSEPSI DI KABUPATEN TAKALAR

Assalamualaikum wr. wb

Yang terhormat Ibu, perkenalkan nama kami dr.Miranti, M.Kes dan tim, pada kesempatan kali ini kami mohon kesediaan Ibu untuk berkenan menjadi responden penelitian dengan judul tersebut di atas, sehingga kami akan menanyakan kepada Ibu beberapa pertanyaan yang berkaitan dengan Sanitasi dan Kesehatan, serta kesediaan pengambilan sampel darah. Untuk jawaban yang Ibu berikan dan hasil pemeriksaan darah tersebut akan kami kaji dan senoga kedepan akan menjadi informasi dan bermanfaat bagi peningkata program kesehatan di kabupaten Takalar dan kami menjamin kerahasianya.

Apakah Ibu bersedia menjadi responden pada penelitian ini?

1. Ya
2. Tidak

Atas bantuan dan kesediaan waktu yang telah Ibu berikan, kami ucapkan terimakasih. Wassalamualaikum wr. wb.

LEMBAR PERSETUJUAN (INFORM COSENT)

Setelah mendengar penjelasan tentang mengenai tujuan penelitian, prosedur penelitian, manfaat dan inti dari kuesioner ini. Saya mengerti bahwa:

- Pada diri saya akan dilakukan wawancara sesuai dengan pertanyaan pada kuesioner Maka dengan ini saya yang bertanda tangan di bawah ini:

Nama ibu	:	_____
Umur	:	_____ tahun
Alamat	:	_____
Wilayah Puskesmas	:	_____
Usia Kehamilan	:	_____
No. Telepon	:	_____

Menyatakan setuju untuk berpartisipasi sebagai subyek penelitian ini secara sukarela dan bebas tanpa ada paksaan, dengan catatan apabila merasa dirugikan dalam penelitian ini dalam bentuk apapun berhak membatalkan persetujuan ini.

_____, tanggal ___/___/2021

Pembuat pernyataan,

(_____)

LAMPIRAN 2

SOP PENGAMBILAN DARAH VENA DAN SALIVA

PENELITIAN EKSTRAK DAUN KELOR DAN IFA DI KECAMATAN POLOMBANGKENG KABUPATEN TAKALAR

1. Pengambilan darah vena sebaiknya dilakukan pada pagi hari sebelum sarapan setelah tidak makan selama 8-10 jam, apabila tidak memungkinkan dilakukan pada waktu kapanpun sepanjang hari.
2. Pengambilan saliva dapat dilakukan kapanpun tanpa persiapan khusus
3. Pengambilan darah vena dilakukan oleh petugas kesehatan terampil seperti perawat atau analis
4. Darah vena ditampung di tabung vacutainer EDTA warna ungu untuk pemeriksaan hematologi dan vacutainer merah untuk pemeriksaan kimia klinik dan imunologi.
5. Pengambilan saliva dilakukan oleh subjek penelitian sendiri dan ditampung dalam tabung merah
6. Tabung darah dan saliva diberi label dan dicantumkan nama, umur dan kode sampel yang disepakati peneliti.
7. Sampel didata dan diberi kode untuk memudahkan penyusunan dan penelusuran data
8. Pemberian kode dilakukan oleh enumerator
9. Darah EDTA sebaiknya langsung diperiksa dengan alat pemeriksaan Hematology analyzer 5 diff dan apabila tdk memungkinkan disimpan di lemari es suhu 2-8 °C hingga 2 hari
10. Pemisahan serum dilakukan dari tabung merah dengan sentrifus 10 menit 3500 rpm. Serum dipisahkan dalam cup-cup sampel minimal 1 ml per cup sampel, diusahakan sebanyak mungkin cup sampel (replikat) untuk mengantisipasi pengulangan pemeriksaan.
11. Serum dan saliva dapat disimpan di freezer suhu -20°C atau -80°C hingga pemeriksaan dilakukan
12. Pengiriman serum/darah EDTA/salive ke Makassar dilakukan dengan tromol es untuk menjaga suhu sampel darat.
13. Sampel yang di terima di Laboratorium humRC UNHAS dan disimpan dalam lemari es hingga waktu pemeriksaan sampel.
14. Sampel serum dan saliva diperiksa dengan metode ELISA
15. Hasil pemeriksaan dikirimkan ke peneliti dalam bentuk excel.
16. Sisa sampel serum disimpan hingga 6 bulan sejak pengambilan sampel apabila dibutuhkan di kemudian hari

LAMPIRAN 3 REKOMENDASI ETIK



KEMENTERIAN PENDIDIKAN, KEBUDAYAAN
RISET, DAN TEKNOLOGI
UNIVERSITAS HASANUDDIN
FAKULTAS KESEHATAN MASYARAKAT

Jln. Perintis Kemerdekaan Km.10 Makassar 90245, Telp.(0411) 585658,
E-mail : fkm.unhas@gmail.com, website: <https://fkm.unhas.ac.id/>

REKOMENDASI PERSETUJUAN ETIK

Nomor : 4885/UN4.14.1/TP.02.02/2021

Tanggal : 2 Agustus 2022

Dengan ini Menyatakan bahwa Protokol dan Dokumen yang Berhubungan dengan Protokol berikut ini telah mendapatkan Persetujuan Etik :

No.Protokol	05111993029	No. Sponsor Protokol	
Peneliti Utama	Abdul Faris	Sponsor	Pribadi
Judul Peneliti	Efek Pemberian Ekstrak Daun Kelor (Moringa Oleifera) Pada Wanita Prakonsepsi terhadap Kadar Hemoglobin, Hepsidin dan Ferritin serta Outcome Pada Kehamilan Trimester III di Kecamatan Polongbangkeng Utara Takalar		
No.Versi Protokol	1	Tanggal Versi	5 November 2019
No.Versi PSP	1	Tanggal Versi	5 November 2019
Tempat Penelitian	Kecamatan Polongbangkeng Utara, Kabupaten Takalar		
Judul Review	<input type="checkbox"/> Exempted <input type="checkbox"/> Expedited <input checked="" type="checkbox"/> Fullboard	Masa Berlaku 2 Agustus 2022 Sampai 2 Agustus 2023	Frekuensi review lanjutan
Ketua Komisi Etik Penelitian	Nama : Prof.dr. Veni Hadju,M.Sc,Ph.D	Tanda tangan 	Tanggal 2 Agustus 2022
Sekretaris komisi Etik Penelitian	Nama : Dr. Wahiduddin, SKM.,M.Kes	Tanda tangan 	Tanggal 2 Agustus 2022

Kewajiban Peneliti Utama :

1. Menyerahkan Amandemen Protokol untuk persetujuan sebelum di implementasikan
2. Menyerahkan Laporan SAE ke Komisi Etik dalam 24 Jam dan dilengkapi dalam 7 hari dan Lapor SUSAR dalam 72 Jam setelah Peneliti Utama menerima laporan
3. Menyerahkan Laporan Kemajuan (progress report) setiap 6 bulan untuk penelitian resiko tinggi dan setiap setahun untuk penelitian resiko rendah
4. Menyerahkan laporan akhir setelah Penelitian berakhir
5. Melaporkan penyimpangan dari protocol yang disetujui (protocol deviation/violation)
6. Mematuhi semua peraturan yang ditentukan

LAMPIRAN 4**CURICULUM VITAE****I. DATA PRIBADI**

1. Nama : Abdul Faris
2. NIP : 19811214 200812 2 001
3. Jenis Kelamin : Pria
4. Agama : Islam
5. Tempat Tanggal lahir : Dompu, 03 Nopember 1968
6. Alamat : Metro palu regency blok J/6, Kota palu
7. Institusi : RSUD Anutapura Palu Sulawesi
Tengah

II. RIWAYAT PENDIDIKAN

1. SDN 8 Dompu, NTB, lulus tahun 1981
2. SMP Negeri 1 Dompu, NTB, lulus tahun 1984
3. SMA Negeri 1 Dompu, NTB, lulus tahun 1987
4. Sarjana Kedokteran Fakultas Kedokteran Universitas Hasanuddin Makassar, lulus tahun 1992
5. Profesi Dokter Fakultas Kedokteran Universitas Hasanuddin, Makassar, lulus tahun 1995
6. Program Pendidikan Dokter Spesialis Obstetri dan Ginekologi Fakultas Kedokteran Universitas Hasanuddin, lulus ahun 2005
7. Program Subspesialis Obstetri dan Ginekologi Sosial Pasca Sarjana Universitas Gadjah Mada Yogyakarta, lulus tahun 2017
8. Pendidikan Doktor FKM Universitas Hasanuddin 2018-sekarang

III. RIWAYAT PEKERJAAN

1. CPNS : RSUD Anutapura Palu, tahun 2000
2. PNS : RSUD Anutapura Palu, tahun 2001
3. Dokter spesialis Obstetri dan Ginekologi di RSUD Anutapura Palu (2006 – sekarang)
4. Dokter spesialis Obstetri dan Ginekologi di RS Tingkat III Shindu Trisno, 2010 – sekarang)

IV. KARYA ILMIAH

1. Perbandingan Kapasitas Kandung Kemih pada Ibu dengan Persalinan Normal dan persalinan dengan Ekstraksi Vakum (2005)
2. Pengaruh Konseling Antenatal terhadap Penerimaan AKDR pascasalin sebuah uji klinis non randomisasi (2017)
3. The Impact of Multiple Micronutrient Supplementation on Hemoglobin Concentration in Pregnant and Neonatal Birth Wight: [Literature Review](#) (2021)

4. Hepcidin Levels and Pregnancy Outcomes in Pregnant Woman with Moringa Leaf Extract Supplementation Since The Preconception Period (2023)

LAMPIRAN 5



