

DAFTAR PUSTAKA

1. Khant Aung Z, Grattan DR, Ladyman SR. Pregnancy induced adaptation of central sensitivity to leptin and insulin. *Mol Cell Endocrinol*. 2020;516:2–4.
2. Downs T, Costa FS, Paganoti CF, Holland OJ, Hryciw DH. Adiponectin and leptin during pregnancy: a systematic review of their association with pregnancy disorders, fetal growth and placental function. *Endocrines*. 2024;5:382–94.
3. Obeidat RA, Abdo N, Sakee B, Alghazo S, Jbarah OF, Hazaimah EA, et al. Maternal and fetal serum leptin levels and their association with maternal and fetal variables and labor. *Ann Med Surg*. 2021;72:1–3.
4. Mbachu I, Umeononihu O, Mbacu C, Okechuwku Z, Udigwe G, Okpara H. Antepartum maternal weight indices, maternal serum leptin and birth weight : a cross-sectional comparative study. *Res Sq*. 2024;1–13.
5. Yilmaz FC, Ozcelik AO. The relationships between leptin levels in maternal serum and breast milk of mothers and term infants. *Ann Med*. 2021;53:1312–5.
6. Fonseca D, Ruas RN, Pereira SS, Teixeira LG, Alvarez-leite, I J. The potential role of leptin in the regulation of maternal weight during pregnancy and its impact on neonate weight and apgar. *Obesities*. 2024;4:24–34.
7. Sapantzoglou I, Vlachos DE, Papageorgiou D, Varthaliti A, Rodolaki K, Daskalaki MA, et al. Maternal blood adipokines and their association with fetal growth: a meta-analysis of the current literature. *J Clin Med*. 2024;13:6.
8. Enebe JT, Enebe NO, Nwagha TU, Meka IA, Nwankwo ME, Izuka EO, et al. Serum leptin levels and relationship with maternal weight gain at term among obese and non-obese pregnant women in Enugu, Nigeria: a comparative cross-sectional study. *J Int Med Res*. 2023;51:7.
9. Jia W, Liu F. Obesity : causes, consequences, treatments , and challenges. *J Mol Cell Biol*. 2021;13:463–5.
10. World Health Organization. Maternal health. 2024;diakses pada 21 Januari 2025. Tersedia pada: <https://www.who.int/health-topics/maternal-health>
11. Kementerian Kesehatan Republik Indonesia. Survei kesehatan indonesia dalam angka. 2023;diakses pada 28 Januari 2025. Tersedia pada: <https://www.badankebijakan.kemkes.go.id/hasil-ski-2023/>
12. Dinas Kesehatan Kota Padang. Profil kesehatan Kota Padang tahun 2023. 2024;Diakses pada 16 Februari 2025. Tersedia pada: <https://dinkes.padang.go.id/ppid#>

13. Reichetzeder C. Overweight and obesity in pregnancy: their impact on epigenetics. *Eur J Clin Nutr.* 2021;75:1710–22.
14. Valencia-Ortega J, Solis-Paredes JM, Saucedo R, Estrada-Gutierrez G, Camacho-Arroyo I. Excessive pregestational weight and maternal obstetric complications: the role of adipokines. *Int J Mol Sci.* 2023;24:19.
15. Daniels TE, Sadovnikoff AI, Ridout KK, Lesseur C, Marsit CJ, Tyrka AR. Associations of maternal diet and placenta leptin methylation. *Mol Cell Endocrinol.* 2020;505:2–4.
16. Parrettini S, Caroli A, Torlone E. Nutrition and metabolic adaptations in physiological and complicated pregnancy: focus on obesity and gestational diabetes. *Front Endocrinol (Lausanne).* 2020;11:1–19.
17. The American College of Obstetricians and Gynecologists Committee on Obstetric Practice Society for Maternal-Fetal Medicine. Definition of term pregnancy. :diakses pada April 2025. Tersedia pada: <https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2013/11/definition-of-term-pregnancy>
18. Pancawardani R, Amelia R, Wahyuni S. Usia kehamilan ibu mempengaruhi keluaran bayi dengan berat badan lahir rendah. *Midwifery Care J.* 2022;3:40–7.
19. Pajala GW, Hidayat F. Hubungan jarak dan usia kehamilan dengan komplikasi persalinan di RSUD Jhon Piet Wanane Sorong. *J Kedokt dan Kesehat.* 2024;20:172.
20. Kementerian Kesehatan Republik Indonesia. Epidemi obesitas. 2018;Diakses pada 16 Januari 2025. Tersedia pada: https://keslan.kemkes.go.id/view_artikel/429/obesitas
21. Trisina CG, Dinata, IMK, Purnawati S. Hubungan persentase lemak tubuh dan indeks massa tubuh terhadap siklus menstruasi mahasiswi Fakultas Kedokteran Universitas Udayana. *E-Jurnal Med Udayana.* 2023;12:12.
22. World Health Organization. Obesity and overweight. *J Kesehat.* 2024;diakses November 2024. Tersedia pada: <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>
23. Kibria GM Al. Prevalence and factors affecting underweight, overweight and obesity /using asian and world health organization cutoffs among adults in Nepal: analysis of the demographic and Health Survey 2016. *Obes Res Clin Pract.* 2019;13:129–36.
24. Holmes CJ, Racette SB. The utility of body composition assessment in nutrition and clinical practice: an overview of current methodology. *Nutrients.* 2021;13:1–16.
25. Nimptsch K, Konigorski S, Pischon T. Diagnosis of obesity and use of

obesity biomarkers in science and clinical medicine. *Metabolism*. 2019;92:61–70.

26. Sweatt K, Garvey WT, Martins C. Strengths and limitations of BMI in the diagnosis of obesity. *Curr Obes Rep*. 2024;13:584–95.
27. Chooi YC, Ding C, Magkos F. The epidemiology of obesity. *Metabolism*. 2019;92:6–10.
28. UNICEF. Analisis lanskap kelebihan berat badan dan obesitas di Indonesia. 2021;diakses pada 22 Februari 2025. Tersedia pada: <https://www.unicef.org/indonesia/id/gizi/laporan/analisis-lanskap-kelebihan-berat-badan-dan-obesitas-di-indonesia>
29. Huang C, Chen W, Wang X. Studies on the fat mass and obesity-associated (FTO) gene and its impact on obesity associated diseases. *Genes Dis*. 2023;10:2351–65.
30. Anggraini NV, Ritanti, Ratnawati D. Genetik mempengaruhi kejadian obesitas pada anak usia sekolah. *J Heal Educ Lit*. 2022;5:1–7.
31. Riskia S. Faktor risiko penyebab obesitas pada remaja : literature review. *J Kesehat Bertuah Indones*. 2024;1(2):53–64.
32. Warda S, Pratiwi V. Faktor risiko obesitas pada anak 5-15 tahun di Indonesia. *Makara Kesehat*. (2019):37–42.
33. Mariani N, McLaughlin A, Lambert E, Kose M, Nikkheslat N, Patsalos O, et al. Disentangling the effects of depression and perceived stress on cortisol levels in individuals with obesity: preliminary results from a cross-sectional study. *Psychoneuroendocrinology*. 2023;158:5.
34. Jin X, Qiu T, Li L, Yu R, Chen X. Pathophysiology of obesity and its associated diseases. *Chinese Pharm Assoc*. 2023;13:1–12.
35. Kawai T, Autieri M V, Scalia R. Adipose tissue inflammation and metabolic dysfunction in obesity. *Am J Physiol*. 2021;320:375–6.
36. Gjermani E, Kirstein A, Kolbig F, Kirchoff M, Bundalian L, Katzmann J, et al. Obesity; an update on the basic pathophysiology and review of recent therapeutic advances. *Biomolecules*. 2021;44:1233–5.
37. Vats H, Saxena R, Mohinder P. Sachdeva GKW, Gupta V. Impact of maternal pre pregnancy body mass index on maternal, fetal and neonatal adverse outcomes in the worldwide populations :a systematic review and meta analysis. *Obes Res Clin Pract*. 2021;15:536–45.
38. Tutunchi H, Mameghanii ME, Ostadrahimi A, Jafarabadi MA. What are the optimal cut-off points of anthropometric indices for prediction of overweight and obesity? predictive validity of waist circumference, waist to hip, and waist to height ratios. *Heal Promot Perspect*. 2020;10:142–7.

39. Natalia JR, Rodiani, Zulfadli. Pengaruh obesitas dalam kehamilan terhadap berat badan janin. *Medula*. 2020;10:539–44.
40. Doshani A, C.Konje J. Placental dysfunction in obese women and antenatal surveillance. *Best Pract Res Clin Obstet Gynaecol*. 2023;91:10.
41. Liu K, Chen Y, Tong J, Yin A, Wu L, Niu J. Association of maternal obesity with preterm birth phenotype and mediation effects of gestational diabetes mellitus and preeclampsia: a prospective cohort study. *BMC Pregnancy Childbirth*. 2022;22:1–9.
42. Shrestha N, Ezechukwu HC, Holland OJ. Developmental programming of - peripheral diseases in offspring exposed to maternal obesity during pregnancy. *Am J Physiol Regul Integr Co Physiol*. 2020;319:507–13.
43. Shook LL, Kislal S, Edlow AG. Fetal brain and placental programming in maternal obesity: a review of human and animal model studies. *Prenat Diagn*. 2020;40:1126–37.
44. Santos E Dos, Hita M, Vialard F, Dieudonn M noëlle. Human placental adaptive changes in response to maternal obesity: sex specificities. *Int J Mol Sci*. 2023;24:1–14.
45. Perakakis N, Farr OM, Mantzoros CS. Leptin in leanness and obesity. *J Am Coll Cardiol*. 2021;77:745–60.
46. Ocviyanti D, Dorothea M. Masalah dan tata laksana obesitas dalam kehamilan. *J Indones Med Assoc*. 2019;68:251–7.
47. Nanda, Rohani, Nurbaity, Anggeni U. Konseling pada ibu hamil dengan obesitas. *J Kesehat dan Pembang*. 2023;14:93–7.
48. Izquierdo AG, Crujeiras AB, Casanueva FF, Carreira MC. Leptin, obesity, and leptin resistance. *Nutrients*. 2019;11:1–11.
49. Guadix P, Corrales I, Vilariño-García T, Rodríguez-Chacón C, Sánchez-Jiménez F, Jiménez-Cortegana C, et al. Expression of nutrient transporters in placentas affected by gestational diabetes: role of leptin. *Front Endocrinol (Lausanne)*. 2023;14:1–16.
50. Knekt VE De, Hedley PL, Kanters JK, Thagaard IN, Krebs L, Christiansen M, et al. The role of leptin in fetal growth during pre-eclampsia. *Int J Mol Sci*. 2021;22:1–16.
51. Arroyo-jousse V, Jaramillo A, Castaño-moreno E, Lépez M, Carrasconegüe K. Molecular basis of disease adipokines underlie the early origins of obesity and associated metabolic comorbidities in the off spring of women with pregestational obesity. *BBA - Mol Basis Dis*. 2020;1866:2–6.
52. Gruzdeva O, Borodkina D, Uchasova E, Dyleva Y. Leptin resistance: underlying mechanisms and diagnosis leptin resistance. *Diabetes, Metab Syndr Obes Targets Ther*. 2019;12:191–8.

53. Pico C, Palou M, Amadora C, Ana P, Rodriguez M, Palou A. Leptin as a key regulator of the adipose organ. *Rev Endocr Metab Disord*. 2022;23:13–30.
54. Antonio P, Flora S, Vilarino-garc, Teresa. Role of leptin in inflammation and vice versa. *Int J Mol Sci*. 2020;21:1–3.
55. Luz M, Albarracín G, Forero Y. Adiponectin and leptin adipocytokines in metabolic syndrome. *Dubai Diabetes Endocrinol J*. 2020;26:93–102.
56. Ren Y, Zhao H, Yin C, Lan X, Wu L, Du X. Adipokines, hepatokines and myokines : focus on their role and molecular mechanisms in adipose tissue inflammation. *J Endocrinol*. 2022;13:1–26.
57. Toplu MI, Akturk E, Cingillioglu B, Uzun HC, Kaya YDY, Genc S, et al. Serum leptin as a diagnostic biomarker in preeclampsia: a prospective controlled study. *Bagcilar Med Bull*. 2025;3–4.
58. Cuningham FG, J.Leveno K, L.Bloom S, C.Hauth J, J.Rouse D, Y.Spong C. *Williams obstetrics*, 23 Editions. New York: McGraw - Hill Professional. 2010.
59. Valencia-ortega J, Castillo-santos A, Moler M, Solis-paredes JM, Saucedo R, Estrada-gutierrez G, et al. Influence of maternal adipokines on anthropometry, adiposity, and neurodevelopmental outcomes of the offspring. *Int J Mol Sci*. 2024;25:2–4.
60. Hu W, Zhu H, Gong F. Leptin and leptin resistance in obesity: current evidence, mechanisms and future directions. *Endocr Connect*. 2025;14(9):1–15.
61. Baratto I, Daher S, Lobo TF, Araujo Júnior E, Guazzelli CAF. Adiponectin and leptin serum levels in normal adolescent pregnancies. *J Matern Neonatal Med*. 2021;34:6.
62. Manna C, Lacconi V, Rizzo G, Lorenzo A De, Massimiani M. Placental dysfunction in assisted reproductive pregnancies : perinatal , neonatal and adult life outcomes. *Int J Mol Sci*. 2022;659.
63. BioVendor. Human leptin ELISA, clinical range. :diakses tanggal 16 Mei 2025. Tersedia pada: <https://www.biovendor.com/leptin-human-elisa-clinical-range>
64. Bettiol H. Neonatal anthropometry and neonatal outcome. *Sao Paulo Med J*. 2023;4:147–8.
65. World Heart Organization. Neonatal care clinical guidelines. 2018. Diakses pada 02 Maret 2025. Tersedia pada: <https://platform.who.int/docs/default-source/mca-documents/policy-documents/guideline/SWZ-MN-48-01-GUIDELINE-2018-eng-Clinical-neonatal-guidelines-2018.pdf>
66. Kementerian Kesehatan Republik Indonesia. Peraturan menteri kesehatan

Republik Indonesia nomor 35 tahun 2014:diakses pada 02 Maret 2025. Tersedia pada: <https://peraturan.bpk.go.id/Details/154752/permenkes-no-53-tahun-2014>

67. Ikatan Dokter Anak Indonesia. Pentingnya pengukuran lingkar kepala dan ubun-ubun besar. :diakses pada 20 Maret 2025. Tersedia pada: <https://www.idai.or.id/artikel/klinik/pengasuhan-anak/pentingnya-pengukuran-lingkar-kepala-dan-ubun-ubun-besar>
68. Malysza JP, Trojnar M, Skorzynska KE, Tjonar ZK, Kolarz DD, Czuba M, et al. Leptin and ghrelin in excessive gestational weight gain-association between mothers and off spring. *Int J Mol Sci.* 2019;20:1–11.
69. Nugraha FK, Sulastri. Gambaran nilai indeks massa tubuh (IMT) pada ibu hamil dengan preeklampsia di RSUD Dr. Moewardi Surakarta. *Kesehatan.* 2022;2:1–11.
70. Kementerian Kesehatan Republik Indonesia. Buku kesehatan ibu dan anak. 2024;Diakses pada 03 Maret 2025. Tersedia pada: <https://ayosehat.kemkes.go.id/buku-kia-kesehatan-ibu-dan-anak>
71. Dahlan MS. Statistik untuk kedokteran dan kesehatan. Jakarta: Salemba Medika. 2020;169.
72. Abassi-Ghanawati M, Greer L, Cunningham FG. Pregnancy and laboratory studies: a reference table for clinicians. *Obstet Gynecol.* 2009;114(6):1326–31.
73. Bela SRA, Mollet GCC. Kajian karakteristik, status gizi dan konsumsi sumber protein pada ibu hamil di Kabupaten Jayapura. *J SAGO Gizi dan Kesehat.* 2024;5:896–906.
74. Kamaruzzaman I, Maidar, Zakaria R, Abdullah A, Ichwansyah F. Obesitas pra kehamilan sebagai determinan utama berat badan ibu hamil di Aceh Barat. *J Penelit Kesehat Suara Forikes.* 2025;16:240–3.
75. Bagus ID, Widya K, Danianto A, Cholidah R. Hubungan obesitas pada kehamilan dengan berat bayi dan usia kehamilan saat persalinan di Puskesmas Cakranegara. *J Kedokt Unram.* 2022;11:781–4.
76. Sesilawati R, Azniah, Isa W La, Hasanuddin N. Kejadian obesitas pasca kehamilan di wilayah kerja Puskesmas Pampang Kota Makassar. *JIMP K J Ilm Mhs Penelit Keperawatan.* 2024;4:60–6.
77. Anugerahwati AA, Aji AS, Afifah E, Lestari P, Lipoeto NI. The interaction between pre-pregnancy body mass index status and gestational weight gain on newborn anthropometric outcomes in West Sumatra, Indonesia. *Amerta Nutr.* 2024;208–17.
78. Meilani N, Nanda S, Tarigan R. Pelaksanaan penyuluhan tentang hipertensi dan indeks massa tubuh dalam kehamilan pada ibu hamil di Puskesmas

Hutapaung. J Abdimas Mutiara. 2023;4:37–42.

79. Rahmatika C, Sulastri D. Obesity as a predictor of preeclampsia in high-risk pregnancies : a literature review. Ners. 2025;9:5443–6.
80. Akbar RG, Primaditya IN, Kesehatan R. Pengaruh indeks massa tubuh (IMT) terhadap kejadian diabetes gestasional pada ibu hamil. J Ilm Multidisiplin. 2024;3(9):280–6.
81. Samano R, Martinez-Rojano H, Barba GC, Godinez E, Sanchez B, Ojeda DM, et al. Serum concentration of leptin in pregnant adolescents correlated with gestational weight gain, postpartum weight retention and newborn weight/length. J Nutr. 2020;1–16.
82. Wauran NC, I.Rambert G, E.L.Berhimpon S. Gambaran jumlah leukosit dan hitung jenis leukosit pada kehamilan trimester 3. e-CliniC. 2025;(3):337–42.
83. Suryani E, Widhiyastuti E. Hubungan antara usia kehamilan dengan jumlah leukosit pada ibu hamil di Puskesmas Slahung Ponorogo. J Anal Lab Med. 2022;7(1):1–9.
84. Mealy G, Brennan K, Killeen SL, Kilbane M, Yelverton C, Saldova R, et al. Impact of previous pregnancy and BMI on cellular and serum immune activity from early to late pregnancy. Sci Rep. 2024;14:1–12.
85. Pavlidou E, Papandreou D, Taha Z, Mantzorou M, Tyrovolas S, Kiortsis DN, et al. Association of maternal Pre-pregnancy overweight and obesity with childhood anthropometric factors and perinatal and postnatal outcomes: a cross-sectional study. Nutrients. 2023;15:1–13.
86. Yasminanindita Z, Fahmi. Indeks massa tubuh pra hamil sebagai faktor risiko terjadinya bayi berat lahir rendah. J Ilm Kesehat Sandi Husada. 2020;9:842–7.
87. Qomari SN, Hikmah N, Antina RR. Analisis luaran maternal dan neonatal berdasarkan indeks massa tubuh (IMT) pra hamil di Bangkalan. Indones J Prof Nurs. 2024;5:109–12.
88. Allbrand M, Eklund D, Cao Y, Nilsson K, Lodefalk M. Gene expression of leptin, leptin receptor isoforms and inflammatory cytokines in placentas of obese women associations to birth weight and fetal sex. Placenta. 2022;117:64–71.
89. Stefaniak M, Dmoch-Gajzlerska E. Maternal serum and cord blood leptin concentrations at delivery in normal pregnancies and in pregnancies complicated by intrauterine growth restriction. Obes Facts. 2022;15:62–9.
90. Castaldi MA, Castaldi SG, Guida M, Di Carlo C, Sarno L. Maternal serum and cord blood leptin concentrations in african newborns: relationship to birth weight and gender. Nutrients. 2025;17:1–8.

91. Rosita IR, Utari A, Mexitalia M. The correlations between cord blood leptin and leptin level at six months with infant growth. *J Biomed Transl Res.* 2021;(2):74–8.
92. Liu J, Lai F, Hou Y, Zheng R. Leptin signaling and leptin resistance. *Int J Mol Sci.* 2022;2:363–84.
93. Pekal Y, Ozhan B, Enli Y, Ozmert, Ergin H. Cord blood levels of spexin, leptin, and visfatin in term infants born small, appropriate, and large for gestational age and their association with newborn anthropometric measurements. *J Clin Res Pediatr Endocrinol Diabetes.* 2022;14:444–52.
94. Roghair RD, Colaizy TT, Steinbrekera B, Vass RA, Hsu E, Dagle D, et al. Neonatal leptin levels predict the early childhood developmental assessment scores of preterm infants. *Nutrients.* 2023;15:1–11.
95. Andrikopoulou M, Panigrahi SK, Jaconia GD, Gyamfi-Bannerman C, Smiley RM, Page-Wilson G. Pregnancy specific adaptations in leptin and melanocortin neuropeptides in early human gestation. *Clin Endocrinol (Oxf).* 2021;12:1–12.
96. Kristiansen O, Roland MC, Zucknick M, Reine TM, Kolset SO, Henriksen T, et al. Maternal body mass index and placental weight: a role for fetal insulin, maternal insulin and leptin. *J Endocrinol Invest.* 2022;45:2105–21.
97. Nuamah, Atuahene M, Korankye E, Torto M, Kitcher S, Ae Y, et al. Mid gestasional serum leptin concentration in obese and non-obese ghanaian mothers and its relationship with gestasional outcome. *J Med.* 2020;9(2):99–105.

