

DAFTAR PUSTAKA

- Agbangba, C.E., Sacla Aide, E., Honfo, H., & Glèlè Kakai, R. (2024). On the use of post-hoc tests in environmental and biological sciences: A critical review. *Heliyon* 10 : e25131.
- Ahza, F.T. (2023). Polimorfisme Gen Sterol Regulatory Element Binding Transcription Factor 1 rs2297508 sebagai Faktor Risiko Terjadinya Diabetes Melitus Tipe 2 pada Etnis Bugis (Tesis). Yogyakarta : Universitas Gadjah Mada.
- Alfaqih, M.A., Al-hawamdeh, A., Amarin, Z.O., Khader, Y.S., Mhedat, K., & Allouh, M.Z. (2022). Single Nucleotide Polymorphism in the ADIPOQ Gene Modifies Adiponectin Levels and Glycemic Control in Type Two Diabetes Mellitus Patients. *BioMed Research International* 2022 : 1–10.
- Al-Mansoori, L., Al-Jaber, H., Prince, M.S., & Elrayess, M.A. (2022). Role of Inflammatory Cytokines, Growth Factors and Adipokines in Adipogenesis and Insulin Resistance. *Inflammation* 45 : 31–44.
- AlSaleh, A., O'Dell, S.D., Frost, G.S., Griffin, B.A., Lovegrove, J.A., Jebb, S.A., *et al.* (2011). Single nucleotide polymorphisms at the ADIPOQ gene locus interact with age and dietary intake of fat to determine serum adiponectin in subjects at risk of the metabolic syndrome. *Am J Clin Nutr* 94 : 262–269.
- Amini, M.R., Shahinfar, H., Babaei, N., Davarzani, S., Ebaditabar, M., Djafarian, K., *et al.* (2020). Association of Dietary Patterns with Visceral Adiposity, Lipid Accumulation Product, and Triglyceride-Glucose Index in Iranian Adults. *Clin Nutr Res* 9 : 145.
- Aygun, S., & Tokgozoglu, L. (2022). Comparison of Current International Guidelines for the Management of Dyslipidemia. *JCM* 11 : 7249.
- Badan Kebijakan Pembangunan Kesehatan (2023). Survei Kesehatan Indonesia (SKI) dalam Angka. Jakarta : Kementerian Kesehatan Republik Indonesia.
- Bays, H.E., Kirkpatrick, C., Maki, K.C., Toth, P.P., Morgan, R.T., Tondt, J., *et al.* (2024). Obesity, dyslipidemia, and cardiovascular disease: A joint expert review from the Obesity Medicine Association and the National Lipid Association 2024. *Obesity Pillars* 10 : 100108.
- Bays, H.E., Toth, P.P., Kris-Etherton, P.M., Abate, N., Aronne, L.J., Brown, W.V., *et al.* (2013). Obesity, adiposity, and dyslipidemia: A consensus statement from the National Lipid Association. *Journal of Clinical Lipidology* 7 : 304–383.
- Beamer, B.A., Yen, C.J., Andersen, R.E., Muller, D., Elahi, D., Cheskin, L.J., *et al.* (1998). Association of the Pro12Ala variant in the peroxisome proliferator-activated receptor-gamma2 gene with obesity in two Caucasian populations. *Diabetes* 47 : 1806–1808.
- Berberich, A.J., & Hegele, R.A. (2022). A Modern Approach to Dyslipidemia. *Endocrine Reviews* 43 : 611–653.
- Berg, R. van den (2017). Greased lighting: implications of circadian lipid metabolism for cardiometabolic health. Netherlands : Leiden University.
- Bhalerao, S., & Kadam, P. (2010). Sample size calculation. *Int J Ayurveda Res* 1 : 55.

- Bojarczuk, A., Skąpska, S., Mousavi Khaneghah, A., & Marszałek, K. (2022). Health benefits of resistant starch: A review of the literature. *Journal of Functional Foods* 93 : 105094.
- Chatterjee, S., & Pal, J.K. (2009). Role of 5'- and 3'-untranslated regions of mRNAs in human diseases. *Biology of the Cell* 101 : 251–262.
- Chen, J.-P., Chen, G.-C., Wang, X.-P., Qin, L., & Bai, Y. (2017). Dietary Fiber and Metabolic Syndrome: A Meta-Analysis and Review of Related Mechanisms. *Nutrients* 10 : 24.
- Chockchaisawasdee, S., & Poosaran, N. (2013). Production of isomaltooligosaccharides from banana flour. *J Sci Food Agric* 93 : 180–186.
- Cimmino, F., Petrella, L., Cavaliere, G., Ambrosio, K., Trinchese, G., Monda, V., *et al.* (2023). A Bioelectrical Impedance Analysis in Adult Subjects: The Relationship between Phase Angle and Body Cell Mass. *JFMK* 8 : 107.
- Cummings, J.H., Macfarlane, G.T., & Englyst, H.N. (2001). Prebiotic digestion and fermentation. *The American Journal of Clinical Nutrition* 73 : 415s–420s.
- de Vooght, K.M.K., & van Solinge, W.W. (2009). Gene promoter analysis in molecular diagnostics: do or don't? *Expert Rev Mol Diagn* 9 : 403–405.
- Diep Nguyen, T. (2020). Adiponectin: Role in physiology and pathophysiology. *Int J Prev Med* 11 : 136.
- Dixon, E.D., Nardo, A.D., Claudel, T., & Trauner, M. (2021). The Role of Lipid Sensing Nuclear Receptors (PPARs and LXR) and Metabolic Lipases in Obesity, Diabetes and NAFLD. *Genes* 12 : 645.
- Dodevska, M.S., Sobajic, S.S., Djordjevic, P.B., Dimitrijevic-Sreckovic, V.S., Spasojevic-Kalimanovska, V.V., & Djordjevic, B.I. (2016). Effects of total fibre or resistant starch-rich diets within lifestyle intervention in obese prediabetic adults. *Eur J Nutr* 55 : 127–137.
- Eberlé, D., Clément, K., Meyre, D., Sahbatou, M., Vaxillaire, M., Le Gall, A., *et al.* (2004). SREBF-1 Gene Polymorphisms Are Associated With Obesity and Type 2 Diabetes in French Obese and Diabetic Cohorts. *Diabetes* 53 : 2153–2157.
- Ezeh, K.J., & Ezeudemba, O. (2021). Hyperlipidemia: A Review of the Novel Methods for the Management of Lipids. *Cureus*.
- Fairley, S., Lowy-Gallego, E., Perry, E., & Flicek, P. (2020). The International Genome Sample Resource (IGSR) collection of open human genomic variation resources. *Nucleic Acids Research* 48 : D941–D947.
- Felder, T.K., Oberkofler, H., Weitgasser, R., Mackevics, V., Krempler, F., Paulweber, B., *et al.* (2007). The SREBF-1 locus is associated with type 2 diabetes and plasma adiponectin levels in a middle-aged Austrian population. *Int J Obes* 31 : 1099–1103.
- Ghaben, A.L., & Scherer, P.E. (2019). Adipogenesis and metabolic health. *Nat Rev Mol Cell Biol* 20 : 242–258.
- Giusti, V., Verdumo, C., Suter, M., Gaillard, R.C., Burckhardt, P., & Pralong, F. (2003). Expression of Peroxisome Proliferator-Activated Receptor- γ 1 and Peroxisome Proliferator-Activated Receptor- γ 2 in Visceral and Subcutaneous Adipose Tissue of Obese Women. *Diabetes* 52 : 1673–1676.

- Goddard, K.A.B., Hopkins, P.J., Hall, J.M., & Witte, J.S. (2000). Linkage Disequilibrium and Allele-Frequency Distributions for 114 Single-Nucleotide Polymorphisms in Five Populations. *The American Journal of Human Genetics* 66 : 216–234.
- Gogtay, N. (2010). Principles of sample size calculation. *Indian J Ophthalmol* 58 : 517.
- Górczyńska-Kosiorz, S., Kosiorz, M., & Dziegielewska-Gęsiak, S. (2024). Exploring the Interplay of Genetics and Nutrition in the Rising Epidemic of Obesity and Metabolic Diseases. *Nutrients* 16 : 3562.
- Goropashnaya, A.V., Herron, J., Sexton, M., Havel, P.J., Stanhope, K.L., Plaetke, R., *et al.* (2009). Relationships between plasma adiponectin and body fat distribution, insulin sensitivity, and plasma lipoproteins in Alaskan Yup'ik Eskimos: the Center for Alaska Native Health Research study. *Metabolism* 58 : 22–29.
- Gourineni, V., Stewart, M., Icoz, D., & Zimmer, J. (2018). Gastrointestinal Tolerance and Glycemic Response of Isomaltooligosaccharides in Healthy Adults. *Nutrients* 10 : 301.
- Goyenechea, E., Collins, L., Parra, D., Abete, I., Crujeiras, A., O'Dell, S., *et al.* (2009). The - 11391 G/A polymorphism of the adiponectin gene promoter is associated with metabolic syndrome traits and the outcome of an energy-restricted diet in obese subjects. *Horm Metab Res* 41 : 55–61.
- Gupta, S.R.N. (2014). Body Composition Analysis of Staff members of College Using Bioelectrical Impedance Analysis Method. *IJCEA* 5 : 259–265.
- Handley, M.A., Lyles, C.R., McCulloch, C., & Cattamanchi, A. (2018). Selecting and Improving Quasi-Experimental Designs in Effectiveness and Implementation Research. *Annu Rev Public Health* 39 : 5–25.
- Harding, A.-H., Loos, R.J.F., Luan, J., O'Rahilly, S., Wareham, N.J., & Barroso, I. (2006). Polymorphisms in the gene encoding sterol regulatory element-binding factor-1c are associated with type 2 diabetes. *Diabetologia* 49 : 2642–2648.
- Harvey, I., Boudreau, A., & Stephens, J.M. (2020). Adipose tissue in health and disease. *Open Biol* 10 : 200291.
- Henry, B.A., & Clarke, I.J. (2008). Adipose Tissue Hormones and the Regulation of Food Intake. *J Neuroendocrinology* 20 : 842–849.
- Hertzel, A.V., O'Connell, T.D., & Bernlohr, D.A. (2020). Lipid receptors and signaling in adipose tissue, in: *Lipid Signaling and Metabolism*. pp. 99–114, Elsevier.
- Hivert, M.-F., Manning, A.K., McAteer, J.B., Florez, J.C., Dupuis, J., Fox, C.S., *et al.* (2008). Common variants in the adiponectin gene (ADIPOQ) associated with plasma adiponectin levels, type 2 diabetes, and diabetes-related quantitative traits: the Framingham Offspring Study. *Diabetes* 57 : 3353–3359.
- Hosseini, M., Ehrhardt, N., Weissglas-Volkov, D., Lai, C.-M., Mao, H.Z., Liao, J.-L., *et al.* (2012). Transgenic Expression and Genetic Variation of Lmfl Affect LPL Activity in Mice and Humans. *ATVB* 32 : 1204–1210.

- Iversen, K.N., Carlsson, F., Andersson, A., Michaëlsson, K., Langton, M., Risérus, U., *et al.* (2021). A hypocaloric diet rich in high fiber rye foods causes greater reduction in body weight and body fat than a diet rich in refined wheat: A parallel randomized controlled trial in adults with overweight and obesity (the RyeWeight study). *Clinical Nutrition ESPEN* 45 : 155–169.
- Janani, C., & Kumari, R. (2015). PPAR gamma gene – A review. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews* 9 : 46–50.
- Jeon, Y.G., Kim, Y.Y., Lee, G., & Kim, J.B. (2023). Physiological and pathological roles of lipogenesis. *Nat Metab* 5 : 735–759.
- Kahn, H.S. (2005). The “lipid accumulation product” performs better than the body mass index for recognizing cardiovascular risk: a population-based comparison. *BMC Cardiovasc Disord* 5 : 26.
- Karimi, H., Nezhadali, M., & Hedayati, M. (2018). Association between adiponectin rs17300539 and rs266729 gene polymorphisms with serum adiponectin level in an Iranian diabetic/pre-diabetic population. *Endocrine Regulations* 52 : 176–184.
- Khine, H.E.E., Sungthong, R., Sritularak, B., Prompetchara, E., & Chaotham, C. (2022). Untapped Pharmaceutical Potential of 4,5,4'-Trihydroxy-3,3'-dimethoxybibenzyl for Regulating Obesity: A Cell-Based Study with a Focus on Terminal Differentiation in Adipogenesis. *J. Nat. Prod.* 85 : 1591–1602.
- Kido, T., Sikora-Wohlfeld, W., Kawashima, M., Kikuchi, S., Kamatani, N., Patwardhan, A., *et al.* (2018). Are minor alleles more likely to be risk alleles? *BMC Med Genomics* 11.
- Kim, E., Kim, E.J., Seo, S.-W., Hur, C.-G., McGregor, R.A., & Choi, M.-S. (2014). Meta-Review of Protein Network Regulating Obesity Between Validated Obesity Candidate Genes in the White Adipose Tissue of High-Fat Diet-Induced Obese C57BL/6J Mice. *Critical Reviews in Food Science and Nutrition* 54 : 910–923.
- Klop, B., Elte, J., & Cabezas, M. (2013). Dyslipidemia in Obesity: Mechanisms and Potential Targets. *Nutrients* 5 : 1218–1240.
- Lee, D.K. (2020). Data transformation: a focus on the interpretation. *Korean J Anesthesiol* 73 : 503–508.
- Li, H., Zhang, L., Li, J., Wu, Q., Qian, L., He, J., *et al.* (2024). Resistant starch intake facilitates weight loss in humans by reshaping the gut microbiota. *Nat Metab* 6 : 578–597.
- Li, Y.-Y., Zhou, Y.-H., Gong, G., Geng, H.-Y., Yang, X.-X., Wang, X.-M., *et al.* (2017). LPL gene Pvu II polymorphism and hypertriglyceridemia: a meta-analysis involving 1,640 subjects. *Korean J Intern Med* 32 : 1018–1024.
- Liu, X., He, M., & Li, Y. (2024). Adult obesity diagnostic tool: A narrative review. *Medicine (Baltimore)* 103 : e37946.
- Llanaj, E., Pikó, P., Nagy, K., Rácz, G., János, S., Kósa, Z., *et al.* (2020). Applicability of Obesity-Related SNPs and their Effect Size Measures Defined on Populations with European Ancestry for Genetic Risk Estimation among Roma. *Genes (Basel)* 11 : 516.

- Lopes, H.F., Corrêa-Giannella, M.L., Consolim-Colombo, F.M., & Egan, B.M. (2016). Visceral adiposity syndrome. *Diabetol Metab Syndr* 8.
- Luo, L., & Liu, M. (2016). Adipose tissue in control of metabolism. *J Endocrinol* 231 : R77–R99.
- Maintinguer Norde, M., Oki, É., de Castro, I.A., Pacheco Souza, J.M., Teixeira Damasceno, N.R., Mara Fisberg, R., *et al.* (2016). Influence of adiponectin gene variants and plasma fatty acids on systemic inflammation state association-A cross-sectional population-based study, São Paulo, Brazil. *Mol Nutr Food Res* 60 : 278–286.
- Malinowski, D., Safranow, K., & Pawlik, A. (2024). LPL rs264, PROCR rs867186 and PDGF rs974819 Gene Polymorphisms in Patients with Unstable Angina. *JPM* 14 : 213.
- Marsono, Y., Putri, R.G., & Arianti, E.D. (2020). The Effects of Replacement of Dietary Fiber with FiberCreme™ on Lowering Serum Glucose and Improvement of Lipid Profile in Hypercholesterolemia-Diabetic Rats and Its Mechanism. *Pakistan J. of Nutrition* 19 : 204–211.
- May, K.S., & Den Hartigh, L.J. (2023). Gut Microbial-Derived Short Chain Fatty Acids: Impact on Adipose Tissue Physiology. *Nutrients* 15 : 272.
- McPherson, R. (2007). Genetic contributors to obesity. *Canadian Journal of Cardiology* 23 : 23A-27A.
- Mishra, P., Pandey, C., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Ann Card Anaesth* 22 : 67.
- Morris, A.L., MacArthur, M.W., Hutchinson, E.G., & Thornton, J.M. (1992). Stereochemical quality of protein structure coordinates. *Proteins* 12 : 345–364.
- Moussa, F.A.H., & Brownlee, I.A. (2023). Effect of non-digestible oligosaccharides on body weight in overweight and obese adults: A systematic review and meta-analysis of randomised controlled trials. *Food Hydrocolloids for Health* 4 : 100146.
- Mukherjee, R., Jow, L., Croston, G.E., & Paterniti, J.R. (1997). Identification, characterization, and tissue distribution of human peroxisome proliferator-activated receptor (PPAR) isoforms PPARgamma2 versus PPARgamma1 and activation with retinoid X receptor agonists and antagonists. *J Biol Chem* 272 : 8071–8076.
- Mumthaj, Natarajan, Janani, Vijay, & Gokul (2021). A Global Review Article on Hyperlipidemia. *IJPSRR* 68.
- Muñoz, A.M., Velásquez, C.M., Agudelo, G.M., Uscátegui, R.M., Estrada, A., Patiño, F.A., *et al.* (2017). Examining for an association between candidate gene polymorphisms in the metabolic syndrome components on excess weight and adiposity measures in youth: a cross-sectional study. *Genes Nutr* 12 : 19.
- Mus, R., Sadewa, A.H., Hastuti, P., Puspasari, A., Maharano, C., & Setyawati, I. (2019). Age Stratification in Genetic Variation of Lipoprotein Lipase in Metabolic Syndrome Javanese Ethnics of Indonesia. *Open Access Maced J Med Sci* 7 : 3540–3545.

- Musso, G., Bo, S., Cassader, M., De Michieli, F., & Gambino, R. (2013). Impact of sterol regulatory element-binding factor-1c polymorphism on incidence of nonalcoholic fatty liver disease and on the severity of liver disease and of glucose and lipid dysmetabolism. *The American Journal of Clinical Nutrition* 98 : 895–906.
- Nakamura, Y., Natsume, M., Yasuda, A., Ishizaka, M., Kawahata, K., & Koga, J. (2017). Fructooligosaccharides suppress high-fat diet-induced fat accumulation in C57BL/6J mice. *BioFactors* 43 : 145–151.
- Narindrarangkura, P., Bosl, W., Rangsin, R., & Hatthachote, P. (2019). Prevalence of dyslipidemia associated with complications in diabetic patients: a nationwide study in Thailand. *Lipids Health Dis* 18 : 90.
- Nicchio, I.G., Cirelli, T., Nepomuceno, R., Hidalgo, M.A.R., Rossa, C., Cirelli, J.A., *et al.* (2021). Polymorphisms in Genes of Lipid Metabolism Are Associated with Type 2 Diabetes Mellitus and Periodontitis, as Comorbidities, and with the Subjects' Periodontal, Glycemic, and Lipid Profiles. *J Diabetes Res* 2021 : 1049307.
- Nie, Y., & Luo, F. (2021). Dietary Fiber: An Opportunity for a Global Control of Hyperlipidemia. *Oxid Med Cell Longev* 2021 : 5542342.
- Norheim, F., Gjelstad, I., Hjorth, M., Vinknes, K., Langleite, T., Holen, T., *et al.* (2012). Molecular Nutrition Research—The Modern Way Of Performing Nutritional Science. *Nutrients* 4 : 1898–1944.
- Payne, V.A., Au, W.-S., Lowe, C.E., Rahman, S.M., Friedman, J.E., O’Rahilly, S., *et al.* (2010). C/EBP transcription factors regulate *SREBP1c* gene expression during adipogenesis. *Biochemical Journal* 425 : 215–224.
- Perera, S., Wang, J., McIntyre, A., & Hegele, R. (2025). Lipoprotein Lipase: Structure, Function, and Genetic Variation. *Genes* 16 : 55.
- Phan, L., Jin, Y., Zhang, H., Qiang, W., Shekhtman, E., Shao, D., *et al.* (2020). Allele Frequency Aggregator [WWW Document]. *National Center for Biotechnology Information, U.S. National Library of Medicine*. URL www.ncbi.nlm.nih.gov/snp/docs/gsr/alfa/
- Politi, C., Roumeliotis, S., Tripepi, G., & Spoto, B. (2023). Sample Size Calculation in Genetic Association Studies: A Practical Approach. *Life* 13 : 235.
- Ranganathan, P. (2021). An Introduction to Statistics: Choosing the Correct Statistical Test. *Indian Journal of Critical Care Medicine* 25 : S184–S186.
- Rashed, A.A., Saparuddin, F., Rathi, D.-N.G., Nasir, N.N.M., & Lokman, E.F. (2022). Effects of Resistant Starch Interventions on Metabolic Biomarkers in Pre-Diabetes and Diabetes Adults. *Front. Nutr.* 8 : 793414.
- Reamtong, O., Waeonukul, R., & Prangthip, P. (2024). Assessing the therapeutic potential of long-chain isomaltooligosaccharides in diabetic and hyperlipidemic rats. *Diabetol Metab Syndr* 16.
- Ruhee, R.T., & Suzuki, K. (2018). Dietary Fiber and its Effect on Obesity: A Review Article. *Advances in Medical Research* 1.
- Ruiz-Narváez, E.A., Kraft, P., & Campos, H. (2007). Ala12 variant of the peroxisome proliferator-activated receptor- γ gene (PPARG) is associated with higher polyunsaturated fat in adipose tissue and attenuates the

- protective effect of polyunsaturated fat intake on the risk of myocardial infarction. *The American Journal of Clinical Nutrition* 86 : 1238–1242.
- Saeed, S., La Cour Poulsen, L., Visnovska, T., Hoffmann, A., Ghosh, A., Wolfrum, C., *et al.* (2025). Chromatin landscape in paired human visceral and subcutaneous adipose tissue and its impact on clinical variables in obesity. *eBioMedicine* 114 : 105653.
- Sajadimajd, S., Bahrami, G., Daglia, M., Nabavi, S.M., Naseri, R., & Farzaei, M.H. (2019). Plant-Derived Supplementary Carbohydrates, Polysaccharides and Oligosaccharides in Management of Diabetes Mellitus: A Comprehensive Review. *Food Reviews International* 35 : 563–586.
- Sakers, A., De Siqueira, M.K., Seale, P., & Villanueva, C.J. (2022). Adipose-tissue plasticity in health and disease. *Cell* 185 : 419–446.
- Salmón-Gómez, L., Catalán, V., Frühbeck, G., & Gómez-Ambrosi, J. (2023). Relevance of body composition in phenotyping the obesities. *Rev Endocr Metab Disord* 24 : 809–823.
- Schäffler, A., Barth, N., Schmitz, G., Ziets, B., Palitzsch, K.-D., & Schölmerich, J. (2001). Frequency and significance of Pro12Ala and Pro115Gln polymorphism in gene for peroxisome proliferation-activated receptor-gamma regarding metabolic parameters in a Caucasian cohort. *Endocrine* 14 : 369–373.
- Schmitt, E., Ballou, M.A., Correa, M.N., DePeters, E.J., Drackley, J.K., & Loor, J.J. (2011). Dietary lipid during the transition period to manipulate subcutaneous adipose tissue peroxisome proliferator-activated receptor- γ co-regulator and target gene expression. *Journal of Dairy Science* 94 : 5913–5925.
- Setyaning, R.S.W., Sunarti, & Arta Farmawati (2023). The interaction between ChREBP rs3812316 gene variant and FiberCreme-IMO cookies on triglyceride levels of hyperlipidemic subjects. *Romanian Journal of Diabetes, Nutrition and Metabolic Diseases* 30.
- Shastry, B.S. (2009). SNPs: Impact on Gene Function and Phenotype, in: Komar, A.A. (Ed.), *Methods in Molecular Biology*. pp. 3–22, Totowa, NJ : Humana Press.
- Shattat, G.F. (2014). A Review Article on Hyperlipidemia: Types, Treatments and New Drug Targets. *Biomed. Pharmacol. J.* 7 : 399–409.
- Shimano, H. (2009). SREBPs: physiology and pathophysiology of the SREBP family. *The FEBS Journal* 276 : 616–621.
- Shimano, H., & Sato, R. (2017). SREBP-regulated lipid metabolism: convergent physiology — divergent pathophysiology. *Nat Rev Endocrinol* 13 : 710–730.
- Shin, E., Park, N.-Y., Jang, Y., Oh, H., Jeong, J., Lim, Y., *et al.* (2012). The association of lipoprotein lipase PvuII polymorphism and niacin intake in the prevalence of metabolic syndrome: a KMSRI-Seoul study. *Genes Nutr* 7 : 331–341.
- Shi-Xiu Zhang, Yi-Yi Ma, Hong-Wei Guo, Wen-Tao Wan, & Kun Xue (2015). Diets High in Carbohydrate May Not Be Appropriate for Rs328 G Carriers with the Metabolic Syndrome. *Asia Pacific Journal of Clinical Nutrition* 24.

- Shuster, A., Atlas, M., Pinthus, J.H., & Mourtzakis, M. (2012). The clinical importance of visceral adiposity: a critical review of methods for visceral adipose tissue analysis. *Br J Radiol* 85 : 1–10.
- Siitonen, N., Pulkkinen, L., Lindström, J., Kolehmainen, M., Eriksson, J.G., Venojärvi, M., *et al.* (2011). Association of ADIPOQ gene variants with body weight, type 2 diabetes and serum adiponectin concentrations: the Finnish Diabetes Prevention Study. *BMC Med Genet* 12 : 5.
- Singh, D.P., Singh, J., Boparai, R.K., Zhu, J., Mantri, S., Khare, P., *et al.* (2017). Isomalto-oligosaccharides, a prebiotic, functionally augment green tea effects against high fat diet-induced metabolic alterations via preventing gut dysbacteriosis in mice. *Pharmacological Research* 123 : 103–113.
- Soccio, R.E., Chen, E.R., Rajapurkar, S.R., Safabakhsh, P., Marinis, J.M., Dispirito, J.R., *et al.* (2015). Genetic Variation Determines PPAR γ Function and Anti-diabetic Drug Response In Vivo. *Cell* 162 : 33–44.
- Song, Y., Li, S., & He, C. (2022). PPAR γ Gene Polymorphisms, Metabolic Disorders, and Coronary Artery Disease. *Front Cardiovasc Med* 9 : 808929.
- Song, Y.-B., Lamothe, L.M., Esmeralda Nava Rodriguez, N., Rose, D.R., & Lee, B.-H. (2022). New insights suggest isomaltooligosaccharides are slowly digestible carbohydrates, rather than dietary fibers, at constitutive mammalian α -glucosidase levels. *Food Chemistry* 383 : 132456.
- Steinert, R.E., Feinle-Bisset, C., Asarian, L., Horowitz, M., Beglinger, C., & Geary, N. (2017). Ghrelin, CCK, GLP-1, and PYY(3–36): Secretory Controls and Physiological Roles in Eating and Glycemia in Health, Obesity, and After RYGB. *Physiological Reviews* 97 : 411–463.
- Sun, C., Mao, S., Chen, S., Zhang, W., & Liu, C. (2021). PPARs-Orchestrated Metabolic Homeostasis in the Adipose Tissue. *IJMS* 22 : 8974.
- Sunarti, Mumpuni, H., Yasmine, N., Marsono, Y., Fibri, D.L.N., & Murdiati, A. (2022). FiberCrema as a Functional Food Ingredient Reduces Hyperlipidemia and Risk of Cardiovascular Diseases in Subjects with Hyperlipidemia. *Prev Nutr Food Sci* 27 : 165–171.
- Swarbrick, M.M., & Havel, P.J. (2008). Physiological, pharmacological, and nutritional regulation of circulating adiponectin concentrations in humans. *Metab Syndr Relat Disord* 6 : 87–102.
- Symonds, M.E. (Ed.) (2017). *Adipose Tissue Biology*. Cham : Springer International Publishing.
- Takahashi, Y., Shinoda, A., Furuya, N., Harada, E., Arimura, N., Ichi, I., *et al.* (2013). Perilipin-Mediated Lipid Droplet Formation in Adipocytes Promotes Sterol Regulatory Element-Binding Protein-1 Processing and Triacylglyceride Accumulation. *PLoS ONE* 8 : e64605.
- Thompson, M.S., Hui Yan, T., Saari, N., & Sarbini, S.R. (2022). A review: Resistant starch, a promising prebiotic for obesity and weight management. *Food Bioscience* 50 : 101965.
- Tim Riskesdas 2018 (2019). *Laporan Nasional Riskesdas 2018*. Jakarta : Lembaga Penerbit Badan Penelitian dan Pengembangan Kesehatan.
- Tonphu, K., Mueangaun, S., Lerkdumnerkit, N., Sengking, J., Tocharus, J., Benjakul, S., *et al.* (2025). Chitooligosaccharide-epigallocatechin gallate

- conjugate ameliorates lipid accumulation and promotes browning of white adipose tissue in high fat diet fed rats. *Chemico-Biological Interactions* 406 : 111316.
- Vargas-Alarcon, G., Gonzalez-Pacheco, H., Perez-Mendez, O., Posadas-Sanchez, R., Cardoso-Saldaña, G., Ramirez-Bello, J., *et al.* (2019). SREBF1c and SREBF2 gene polymorphisms are associated with acute coronary syndrome and blood lipid levels in Mexican population. *PLoS ONE* 14 : e0222017.
- Vekic, J., Stefanovic, A., & Zeljkovic, A. (2023). Obesity and Dyslipidemia: A Review of Current Evidence. *Curr Obes Rep* 12 : 207–222.
- Walsh, S.K., Lucey, A., Walter, J., Zannini, E., & Arendt, E.K. (2022). Resistant starch—An accessible fiber ingredient acceptable to the Western palate. *Comp Rev Food Sci Food Safe* 21 : 2930–2955.
- Wang, F., Mullican, S.E., DiSpirito, J.R., Peed, L.C., & Lazar, M.A. (2013). Lipoatrophy and severe metabolic disturbance in mice with fat-specific deletion of PPAR γ . *Proc. Natl. Acad. Sci. U.S.A.* 110 : 18656–18661.
- Wang, H., & Eckel, R.H. (2009). Lipoprotein lipase: from gene to obesity. *American Journal of Physiology-Endocrinology and Metabolism* 297 : E271–E288.
- Wang, H.-F., Lim, P.-S., Kao, M.-D., Chan, E.-C., Lin, L.-C., & Wang, N.-P. (2001). Use of isomalto-oligosaccharide in the treatment of lipid profiles and constipation in hemodialysis patients. *Journal of Renal Nutrition* 11 : 73–79.
- Wang, L.N., Yu, Q., Xiong, Y., Liu, L.F., Zhang, Z., Zhang, X.N., *et al.* (2011). Lipoprotein lipase gene polymorphisms and risks of childhood obesity in Chinese preschool children. *Eur J Pediatr* 170 : 1309–1316.
- Wijaya, H., Foe, K., Soewandhi, A., Wihadmadyatami, H., & Tjahjono, Y. (2021). The effect of supplementation of Isomaltooligosaccharide and emulsified medium-chain triglycerides on blood glucose, β -hydroxybutyrate and calorie intake in male Wistar rats. *Clinical Nutrition Open Science* 37 : 35–46.
- Wijaya, H., Hirata, Y., Tjan, L.H., Tjahjono, Y., Foe, K., Caroline, *et al.* (2022). The combination of isomalto-oligosaccharides (IMO)-based dietary fiber and hypocaloric high-protein diet could improve the anthropometric profile and fasting plasma glucose of healthy adults: A repeated single-arm clinical trial. *Contemporary Clinical Trials Communications* 30 : 101049.
- Williams, R., & Periasamy, M. (2020). Genetic and Environmental Factors Contributing to Visceral Adiposity in Asian Populations. *Endocrinol Metab* 35 : 681–695.
- Winick, J.D., & Friedman, J.M. (1998). Microsatellite Marker Content Mapping of 12 Candidate Genes for Obesity: Assembly of Seven Obesity Screening Panels for Automated Genotyping. *Genome Res.* 8 : 985–994.
- Wright, J., & Subramanian, S. (2024). Therapy for Hyperlipidemia. *Med Clin North Am* 108 : 881–894.
- Wu, S.A., Kersten, S., & Qi, L. (2021). Lipoprotein Lipase and Its Regulators: An Unfolding Story. *Trends in Endocrinology & Metabolism* 32 : 48–61.

- Wuni, R., Ventura, E.F., Curi-Quinto, K., Murray, C., Nunes, R., Lovegrove, J.A., *et al.* (2023). Interactions between genetic and lifestyle factors on cardiometabolic disease-related outcomes in Latin American and Caribbean populations: A systematic review. *Front Nutr* 10 : 1067033.
- Xia, C., Li, R., Zhang, S., Gong, L., Ren, W., Wang, Z., *et al.* (2012). Lipid accumulation product is a powerful index for recognizing insulin resistance in non-diabetic individuals. *Eur J Clin Nutr* 66 : 1035–1038.
- Younes, S., Ibrahim, A., Al-Jurf, R., & Zayed, H. (2021). Genetic polymorphisms associated with obesity in the Arab world: a systematic review. *Int J Obes* 45 : 1899–1913.
- Yu, S.R., & Shin, K.-A. (2023). Visceral Adiposity Index and Lipid Accumulation Product as Effective Markers of Different Obesity Phenotypes in Korean Adults: A Cross-Sectional Analysis. *DMSO Volume* 16 : 495–504.
- Yuan, H.C., Meng, Y., Bai, H., Shen, D.Q., Wan, B.C., & Chen, L.Y. (2018). Meta-analysis indicates that resistant starch lowers serum total cholesterol and low-density cholesterol. *Nutrition Research* 54 : 1–11.
- Zechner, R., Strauss, J., Frank, S., Wagner, E., Hofmann, W., Kratky, D., *et al.* (2000). The role of lipoprotein lipase in adipose tissue development and metabolism. *Int J Obes* 24 : S53–S56.
- Zhang, Z., Gong, R.R., Du, J., Xiao, L.Y., Duan, W., Zhou, X.D., *et al.* (2011). Associations of the SREBP-1c gene polymorphism with gender-specific changes in serum lipids induced by a high-carbohydrate diet in healthy Chinese youth. *Appl Physiol Nutr Metab* 36 : 226–232.
- Zhao, L., Zheng, X., Liu, J., Zheng, R., Yang, R., Wang, Y., *et al.* (2019). PPAR signaling pathway in the first trimester placenta from in vitro fertilization and embryo transfer. *Biomedicine & Pharmacotherapy* 118 : 109251.
- Zhao, X., Wang, M., Wen, Z., Lu, Z., Cui, L., Fu, C., *et al.* (2021). GLP-1 Receptor Agonists: Beyond Their Pancreatic Effects. *Front. Endocrinol.* 12 : 721135.
- Zieleniak, A., Wójcik, M., & Woźniak, L.A. (2008). Structure and physiological functions of the human peroxisome proliferator-activated receptor γ . *Arch. Immunol. Ther. Exp.* 56 : 331–345.