

DAFTAR PUSTAKA

- Aleemardani, M., Trikić, M.Z., Green, N.H., Claeysens, F., 2021. The importance of mimicking dermal-epidermal junction for skin tissue engineering: A Review. *Bioengineering (Basel)*. 20;8(11):148.
- Ananthi, J., Prakasam, A., Pugalendi, V., 2003. Antihyperglycemic activity of Eclipta alba leaf on alloxan induced diabetic rats. *Yale Journal of Biology and Medicine*, 76: 97-102.
- Azizian, Z., Behrangi, E., Hasheminasabzavareh, R., Kazemlo, H., Esmaeeli, R., Hassani, P., 2019. Prevalence study of dermatologic manifestations among diabetic patients. *Adv Prev Med*. 1;2019:5293193.
- Badole, S.L., Mahamuni, S.P., Bagul, P.P., 2012. Cycloart-23-ene-3 β , 25-diol stimulates GLP-1 (7-36) amide secretion in streptozotocin-nicotinamide induced diabetic Sprague Dawley rats: A mechanistic approach. *Eur J Pharmacol* . 698(1-3): 470-9.
- Brady, L., Pai, S., Iaquinto, J.M., Wang, Y.N., Ledoux, W.R., 2021. The compressive, shear, biochemical, and histological characteristics of diabetic and non-diabetic telapak kaki skin are minimally different. *J Biomech*. 2;129:110797.
- Breitkreutz, D., Mirancea, N., Nischt, R., 2009. Membrana basaliss in skin: unique matrix structures with diverse functions? *Histochem Cell Biol*. 132(1):1-10.
- Cabral, G.A., Garza, I., Castruita, C., Ramirez, J.M., Perez, B.A., Rodriguez, J. *et al.*, 2020. The roles of matrix metalloproteinases and their inhibitors in human diseases. *Int J Mol Sci*. 20;21(24):9739.
- Cardellini, M., Menghini, R., Martelli, E., Casagrande, V., Marino, A., Rizza, S. *et al.*, 2009. TIMP3 is reduced in atherosclerotic plaques from subjects with type 2 diabetes and increased by SirT1. *Diabetes*. 58:2396–2401.
- Chang, M., 2016. Restructuring of the extracellular matrix in diabetic wounds and healing: A perspective. *Pharm. Res*. 2016;107:243–248.
- Chao, C.Y., Zheng, Y.P., Cheing, G.L., 2011. Epidermal thickness and biomechanical properties of telapak kaki tissues in diabetic foot. *Ultrasound Med Biol*. 37(7):1029-38.
- Chen, C.Y., Zhang, J.Q., Li, L., Guo, M.M., He, Y.F., Dong, Y.M., *et al.*, 2022. Advanced glycation end products in the skin: molecular mechanisms, methods of measurement, and inhibitory pathways. *Front Med (Lausanne)*. 11;9:837222.
- Chen, R.F., Wang, C.T., Chen, Y.H., Chien, C.M., Sheng Lai, C. *et al.*, 2019. Hyaluronic acid-povidone-iodine compound facilitates diabetic wound

- healing in a streptozotocin-induced diabetes rodent model. *Plast Reconstr Surg.* 143(5):1371-1382.
- Cole, J.B., Florez, J.C., 2020. Genetics of diabetes mellitus and diabetes complications. *Nat Rev Nephrol.* 16(7):377-390.
- Collier, A., Patrick, A.W., Bell, D., Matthews, D.M., MacIntyre, C.C.A., Ewing DJ. et al., 1989. Relationship of skin thickness to duration of diabetes, glycemic control, and diabetic complications in male iddm patients. *Diabetes Care*, 12(5), 309–312.
- de Macedo, G. M., Nunes, S., Barreto, T., 2016. Skin disorders in diabetes mellitus: an epidemiology and physiopathology review. *Diabetol Metab Syndr.* 30;8(1):63.
- Deshpande, D., Agarwal, N., Fleming, T., Gaveriaux-Ruff, C., Klose, C. S. N., Tappe-Theodor, A., et al., 2021. Loss of POMC-mediated antinociception contributes to painful diabetic neuropathy. *Nature Communications.* 12(1), 1–18.
- Eleazu, C.O., Eleazu, K.C., Chukwuma, S., Essien, U.N., 2013. Review of the mechanism of cell death resulting from streptozotocin challenge in experimental animals, its practical use and potential risk to humans. *J Diabetes Metab Disord.* 12(1): 60.
- Elliott, R.B., Chase, H.P., 1991. Prevention or delay of type 1 (insulin-dependent) diabetes mellitus in children using nicotinamide. *Diabetologia.* 34(5): 362-5.
- Fan, B., Chopp, M., Zhang, Z.G., Liu, X.S., 2021. Treatment of diabetic peripheral neuropathy with engineered mesenchymal stromal cell-derived exosomes enriched with microRNA-146a provide amplified therapeutic efficacy. *Experimental Neurology.* 113694.
- Furman, B. L., 2021. Streptozotocin-induced diabetic models in mice and rats. *Current Protocols*, 1, e78.
- Gelse, K., Pöschl, E., Aigner, T., 2003. Collagens--structure, function, and biosynthesis. *Adv Drug Deliv Rev.* 55(12):1531-46.
- Hanna, W., Friesen, D., Bombardier, C., Gladman, D., Hanna, A., 1987. Pathologic features of diabetic thick skin. *Journal of the American Academy of Dermatology*, 16(3), 546–553.
- Huntley, A.C., Walter, R.M., 1990. Quantitative determination of skin thickness in diabetes mellitus: relationship to disease parameters. *Journal of Medicine.* 257–264.
- Horikawa, T., Hiramoto, K., Tanaka, S., Ooi, K., 2022. Skin dryness induced in the KK-Ay/TaJcl type 2 diabetes mouse model deteriorates following dapagliflozin administration. *Biol Pharm Bull.* 45(7):934-939.

- Innocent, O., ThankGod, O., Sandra, E. and Josiah, I. 2013: Correlation between body mass index and blood glucose levels among some Nigerian undergraduates. *HOAJ Biology*. 2:4.
- Karadag, A.S., Ozlu, E., Lavery, M.J., 2018. Cutaneous manifestations of diabetes mellitus and the metabolic syndrome. *Clin Dermatol*. 36(1):89-93.
- Kementerian Kesehatan RI., 2021, Hasil Utama RISKESDAS 2021. Available at: http://www.kesmas.kemkes.go.id/assets/upload/dir_519d41d8cd98f00/files/Hasil-risikesdas-2018_1274.pdf (Accessed: 9 Februari 2022).
- King, A. 2012. The use of animal models in diabetes research', *British Journal of Pharmacology*, 166, pp. 877–894.
- Koivisto, A., Pertovaara, A., 2013. Transient receptor potential ankyrin 1 (TRPA1) ion channel in the pathophysiology of peripheral diabetic neuropathy. *Scandinavian Journal of Pain*, 4(3), 129–136.
- Levine, B.S., Henry, M.C., Port, C.D., Rosen, E., 1980. Toxicologic evaluation of streptozotocin (NSC 85998) in mice, dogs and monkeys. *Drug Chem Toxicol*. 3(2): 201-12
- Li, M., Yuan, J., Hou, Q., Zhao, Y., Zhong, L., Dai, X. *et al.*, 2022. Characterization of the skin bacteriome and histology changes in diabetic pigs. *Int J Low Extrem Wounds*. 12:15347346221100887.
- Lima, A.L., Illing, T., Schliemann, S., Elsner, P., 2017. Cutaneous manifestations of diabetes mellitus: A Review. *Am J Clin Dermatol*. 18(4):541-553. d
- Makela, M., Larjava, H., Pirila, E., Maisi P., Salo T., Sorsa, T. *et al.*, 1999. Matrix metalloproteinase 2 (gelatinase A) is related to migration of keratinocytes. *Exp. Cell Res*. 1999;251:67–78.
- Masiello, P., Broca, C., Gross, R., Roye, M., Manteghetti, M., Buys, D. *et al.* 1998. Experimental NIDDM: Development of a new model in adult rats administered streptozotocin and nicotinamide. *Diabetes*. 47(2): 224-9.
- Masiello, P., 2006. Animal models of type 2 diabetes with reduced pancreatic beta-cell mass. *Int J Biochem Cell Biol*. 38(5-6): 873-93.
- Maqbool, M., Dar, M.A., Gani, I., Mir, SA., 2019. Animal models in diabetes mellitus: An overview. *J Drug Deliv Ther*. 9(1-s): 472-5.
- Miyachi, K., Yamada, T., Sanada, A., *et al.*, 2022. Melanin accumulation in dermal stem cells deteriorates their exosome-mediated skin basement membrane construction in solar lentigo. *Exp Dermatol*. 31: 1881- 1890.
- Mythili, MD., Vyas, R., Akila, G., Gunasekaran, S., 2004. Effect of streptozotocin on the ultrastructure of rat pancreatic islets. *Microsc Res Tech*. 63(5): 274-81.
- Ngo, B.T., Hayes, K.D., DiMiao, D. J., Srinivasan, S. K., Huerter, C. J., Rendell,

- M. S. 2005. Manifestations of cutaneous diabetic microangiopathy. *Am J Clin Dermatol.* 6(4):225-37.
- Nurliyani, Harmayani, E., Sunarti., 2015. Antidiabetic potential of kefir combination from goat milk and soy milk in rats induced with Streptozotocin-Nicotinamide. *Korean J. Food Sci. An.* 35 (6): 847-858.
- Oxlund, H., Manschot, J., & Viidik, A., 1988. The role of elastin in the mechanical properties of skin. *Journal of Biomechanics.* 21(3), 213–218.
- Pai, S., Ledoux, W.R., 2010. The compressive mechanical properties of diabetic and non-diabetic telapak kaki soft tissue. *J Biomech.* 43:1754 – 1760, 2010.
- Papaiordanou, F., Oliveira, G.P., Hexsel, D., Vattimo, A.C.A., 2022. Colágeno e pele: da estrutura às evidências de sua suplementação oral. *Surg Cosm Dermatol.* 14:20220110.
- Patel, R., Shervington, A., Pariente, JA., *et al.*, 2006. Mechanism of exocrine pancreatic insufficiency in streptozotocin-induced type 1 diabetes mellitus. *Ann N Y Acad Sci.* 1084: 71-88.
- Qinna, N.A., Badwan, A.A., 2015. Impact of streptozotocin on altering normal glucose homeostasis during insulin testing in diabetic rats compared to normoglycemic rats. *Drug Des Devel Ther.* 9: 2515-25.
- Rais, N., Ved, A., Ahmad, R., Parveen, K., Gautam, G.K., Bari, DG. *et al.*, 2022. Model of streptozotocin-nicotinamide induced type 2 diabetes: a Comparative Review. *Curr Diabetes Rev.* 18(8):e171121198001.
- Reilly, D.M., Lozano, J., 2021 Skin collagen through the lifestages: importance for skin health and beauty. *Plast Aesthet Res.* 8:2.
- Ridge, M.D., Wright, V., 1966. Mechanical properties of skin: a bioengineering study of skin structure. *Journal of Applied Physiology.* 21(5), 1602–1606.
- Rojas, DR., Tegeder, I., Kuner, R., Agarwal, N., 2018. Hypoxia-inducible factor 1 α protects peripheral sensory neurons from diabetic peripheral neuropathy by suppressing accumulation of reactive oxygen species. *Journal of Molecular Medicine*, 96(12), 1395–1405.
- Roy Chowdhury, S.K., Smith, D.R., Saleh, A., Schapansky, J., Marquez, A., Gomes, S. *et al.*, 2012. Impaired adenosine monophosphate-activated protein kinase signalling in dorsal root ganglia neurons is linked to mitochondrial dysfunction and peripheral neuropathy in diabetes. *Brain*, 135(6), 1751–1766.
- Salo, T., Makela, M., Kylmaniemi, M., Autio-Harmanen, H., Larjava, H., m1 994. Expression of matrix metalloproteinase-2 and -9 during early human wound healing. *Lab. Investig.* 1994;70:176–182
- Scridon, A., Perian, M., Mărginean, A., Vântu A., Gherțescu D., Fișcă C., *et al.*, 2019. Streptozotocin-induced diabetes mellitus - a paradox of high intrinsic

platelet reactivity and low in vitro platelet aggregation. *Acta Endocrinol (Bucur)*. 5(1): 46-51.

Shemesh, S., Sidon, E., Kaisler, E., Sheinis, D., Velkes, S., Ohana, N., *et al.*, 2001. Diabetes mellitus is associated with increased elastin fiber loss in ligamentum flavum of patients with lumbar spinal canal stenosis: results of a pilot histological study. *Eur Spine J*. 27(7):1614-1622.

Singh, S. N., Vats, P., Suri, S., Shyam, R., Kumria, M. M., Ranganathan S. *et al.*, 2001. Effect of an antidiabetic extract of *Catharanthus roseus* on enzymic activities in streptozotocin induced diabetic rats. *J Ethnopharmacol*. 76(3): 269-77.

Soelistijo, S., 2021. Konsensus Pengelolaan Dan Pencegahan Diabetes Melitus Tipe2 Di Indonesia 2021, Perhimpunan Endokrinologi Indonesia. Available at: <https://pbperkeni.or.id/wp-content/uploads/2021/11/22-10-21-Website-Pedoman-Pengelolaan-dan-Pencegahan-DMT2-Ebook.pdf>

Szkudelski, T., 2012. Streptozotocin-nicotinamide-induced diabetes in the rat. Characteristics of the experimental model. *Exp Biol Med (Maywood)*. 237(5): 481-90.

Suh, Y., Moon, J., Yoon, J.Y., Kim, S.W., Choi, Y.S., 2018. Effects of initiation time of glycemic control on skin collagen recovery in streptozotocin-induced diabetic rats. *Dermatology*. 234(3-4):148-156.

Surjana, D., Halliday, G.M., Damian, D.L., 2010. Role of nicotinamide in DNA damage, mutagenesis, and DNA repair. *J Nucleic Acids*. 157591.

Timár, F., Soós, G., Szende, B., Horváth, A., 2000. Interdigitation index – a parameter for differentiating between young and older skin specimens. *Skin Research and Technology*. 6(1), 17–20.

Vasudeva, N., Sharma, S., 2012. Acute and chronic animal models for the evaluation of anti-diabetic agents. *Cardiovasc Diabetol*. 11: 9.

Wang, Y.N., Lee, K., Ledoux, W.R., 2011. Histomorphological evaluation of diabetic and non-diabetic soft tissue. *Foot Ankle Int*. 32(8):802-10.

Wang, L., Chopp, M., Szalad, A., Lu, X.R., Jia, L.F., Lu, M. *et al.*, 2016. Tadalafil promotes the recovery of peripheral neuropathy in type II diabetic mice. *PLoS ONE*, 11(7), 1–13.

Zheng, Y., Shu, B., Fu, J., Kafanas, A., Veves, A. 2018. Structural and functional changes in skin of the diabetic foot. In: Veves, A., Giurini, J., Guzman, R. (eds) *The Diabetic Foot. Contemporary Diabetes*. Humana, Cham.

Zhou, P., Yang, C., Zhang, S., Ke, ZX., Chen, DX. *et al.*, 2021). The Imbalance of MMP-2/TIMP-2 and MMP-9/TIMP-1 contributes to collagen deposition disorder in diabetic non-injured skin. *Front Endocrinol (Lausanne)*. 27;12:734485.