DAFTAR PUSTAKA

1 Pratiwi AR. *Perbedaan Pengaruh Pemberian Isomeric Quadriceps Exercise dan Progresive Resistance Exercise terhadap Peingkatan Lingkup Gerak.* 2018;

2 Marlina M, Jannah M, Khairunnisa A, Zalmi MA, Ali H, Rahmadian R, et al. Cross sectional evaluation of interleukin-4 and collagen type-1 in knee osteoarthritis. Vol. 8, *Research Journal of Pharmaceutical, Biological and Chemical Sciences*. 2017. 122–126 p.

3 Normasari R, Murniati A. Leptin Inhibit the Effect of Pioglitazone in Reducing MMP-9 and MMP-13 of IL-1 β -Induced Chondrocytes. *Journal of Agromedicine and Medical Sciences*. 2015;2(1):12–8.

4 Firestein GS, Budd RC, Harris ED, McInnes IB, Ruddy S, Sergen JS. *Kelley's textbook of rheumatology*. 9th. Saunders Co. 2013;

5 Pratama I. *Isolasi Dan Karakterisasi Sel Punca Mesenkimal Dari Jaringan Sinovium Pasien Osteoartritis Derajat IV*. 2018;

6 Yusuf E. Pharmacologic and Non-Pharmacologic Treatment of Osteoarthritis. *Current Treatment Options in Rheumatology*. 2016;2(2):111–25.

7 Vanlauwe J, Huylebroek J, Van Der Bauwhede J, Saris D, Veeckman G, Bobic V. Clinical Outcomes of Characterized Chondrocyte Implantation. *Cartilage*. 2012 Apr;3(2):173–80.

8 Halim D, Murti H, Sandra F, Boediono A, Djuwantono T, Setiawan B. *Stem Cell Dasar Teori & Aplikasi Klinis*. Rina A, editor. Erlangga; 2010. 34 p.

9 Chen YC, Chang YW, Tan KP, Shen YS, Wang YH, Chang CH. Can Mesenchymal Stem Cells and Their Conditioned Medium Assist Inflammatory Chondrocytes Recovery. *PLoS One*. 2018;13(11):1–16.

10 Widowati W, Afifah E, Mozef T, Sandra F, Rizal R, Amalia A. Effects of insulin-like growth factor-induced Wharton jelly mesenchymal stem cells toward chondrogenesis in an osteoarthritis model. *Iran Journal of Basic Medical Sciences*. 2018;4:745–52.

11 Ramadhani F. *Isolasi Sel Primer dari Jaringan Sinovium*. 2018;

12 Fajrin, I. *Uji Differensiasi Sel Punca Mesenkimal Asal Jaringan Membran Sinovial Pasien Operasi Penggantian Sendi Lutut Total.* 2019;

13 Zhang M, Zhou Q, Liang Q-Q, Li C-G, Holz JD, Tang D. IGF-1 regulation of type II collagen and MMP-13 expression in rat endplate chondrocytes via distinct signaling pathways. *Osteoarthritis and Cartilage*. 2009.(1):100–6.

14 Ogata Y, Mabuchi Y, Yoshida M, Suto EG, Suzuki N, Muneta T, Sekiya I, Akazawa C. Purified Human Synovium Mesenchymal Stem Cells as a Good Resource for Cartilage Regeneration. *PLoS One.* 2015 Jun;10(6):e0129096.

15 Kim HO, Choi SM, Kim HS. Mesenchymal Stem Cell-derived Secretome and Microvesicles as a Cell-Free Therapeutics for Neurodegenerative Disorders. *Tissue Engineering and Regenerative Medicine.* 2013;10(3):93–101.

16 Sanchooli T, Norouzian M, Ardeshirylajimi A, Ghoreishi S, Amin Abdollahifar M, Nazarian H, Piryaei A. Adipose Derived Stem Cells Conditioned Media in Combination with Bioceramic-Collagen Scaffolds Improved Calvarial Bone Healing in Hypothyroid Rats. Vol. *In Press, Iranian Red Crescent Medical Journal.* 2017.

17 Wei F-Y, Lee JK, Wei L, Qu F, Zhang J-Z. Correlation of Insulin-Like Growth Factor 1 and Osteoarthritic Cartilage Degradation: a Spontaneous Osteoarthritis In Guinea-Pig. *European Review of Medical and Pharmacological Sciences.* 2017 Oct;21(20):4493–500.

18 Yakar S, Adamo ML. Insulin-Like Growth Factor 1 Physiology. *Endocrinology and Metabolism Clinics of North America*. 2012 Jun;41(2):231–47.

19 Long G, Piccinini AM, Stefan A, Middleton J, Tyler G, Kehoe O, Kay AG, Broadfoot SJ. Mesenchymal Stem Cell-Conditioned Medium Reduces Disease Severity and Immune Responses in Inflammatory Arthritis. *Scientific Reports*. 2017;7(1):1–11.

20 Neogi T. Clinical significance of bone changes in osteoarthritis. *Therapeutic Advances in Musculoskeletal Disease*. 2012;4(4):259–67.

21 Ravi S, R. A, Vasudevan B, Sankar S, Bhaskar A, Areekal B. Osteoarthritis of Knee and Factors Associated With it in Middle Aged Women in a Rural Area of Central Kerala, India. *The International Journal of Community Medicine and Public Health.* 2016;3(10):2926–31.

22 Yuan XL, Meng HY, Wang YC, Peng J, Guo QY, Wang AY, Lu SB. Bone-cartilage interface crosstalk in osteoarthritis: Potential pathways and future therapeutic strategies. *Osteoarthritis Cartilage.* 2014;22(8):1077–89.

23 Michael JW-P, Schlüter-Brust KU, Eysel P. The Epidemiology, Etiology, Diagnosis, and Treatment of Osteoarthritis of the Knee. *Deutsches Ärzteblatt*. 2018;107(9).

24 Johnson VL, Hunter DJ. The epidemiology of osteoarthritis. *Best Practice & Research: Clinical Rheumatology* . 2014;28(1):5–15.

25 Helmick CG, Felson DT, Lawrence RC, Gabriel S, Hirsch R, Kwoh CK, Liang MH, Kremers HM, Mayes MD, Merkel PA, Pillemer SR, Reveille JD, Stone JH. Estimates of The Prevalence of Arthritis and Other Rheumatic

Conditions In The United States. Part I. *Arthritis Rheumatoid*. 2008;58(1):15–25.

26 Zhang Y, Jordan J. *Epidemyology of Osteoarthritis*. Clinics in Geriatric Medicine. 2010;26(3):355–69.

27 Glass N, Segal NA, Sluka KA, Torner JC, Nevitt MC, Felson DT, Bradley LA, Neogi A, Lewis CE, Frey-low LA. Examining Sex Differences in Knee Pain: The Multicenter Osteoarthritis Study. *Osteoarthritis Cartilage*. 2014;22(8):1100–6.

28 Elam ML, Johnson SA, Akhavan NS, Ormsbee L, Ezzat-Zadeh Z, George KS, Panton LB, Foley EM, Arjmandi BH. Functionality in Middle-Aged and Older Overweight and Obese Individuals with Knee Osteoarthritis. *Healthcare*. 2018;6(3):74.

29 Spector TD, MacGregor AJ. Risk Factors for Osteoarthritis: Genetics. *Osteoarthritis Cartilage*. 2004;39–44.

30 Wright NC, Riggs GK, Lisse JR, Chen Z. Self-Reported Osteoarthritis, Ethnicity, Body Mass Index, and Other Associated Risk Factors in Postmenopausal Women - Results from The Women's Health Initiative. *Journal of the American Geriatrics Society*. 2008;56(9):1736–43.

31 Sposito A, Ramires J. Harrison's Principles of Internal Medicine, 17th edition, Chapter e37: *Chagas' Disease: Advances in Diagnosis and Management*. 2008;(February 2014).

32 Jiang L, Tian W, Wang Y, Rong J, Bao C, Liu Y. Body mass index and susceptibility to knee osteoarthritis: A systematic review and meta-analysis. Joint Bone Spine. 2012;79(3):291–7.

33 Mayoclinic. Osteoarthritis [Internet]. 2018 [cited 2019 Mar 7].

34 Messier SP, Legault C, Mihalko S, Miller GD, Loeser RF, Devita P, Lyles M, Eckstein F, Hunter DJ, Williamson JD, Nicklas BJ. The Intensive Diet and Exercise for Arthritis (IDEA) trial: Design and rationale. *BMC Musculoskeletal Disorder*. 2009;10(1):1–14.

35 Hwang HS, Kim HA. Chondrocyte apoptosis in the pathogenesis of osteoarthritis. *International Journal of Molecular Science*. 2015;16(11):26035–54.

36 Wells B, Dipiro J, Terry L, Cecily V. *Pharmacotherapy handbook*. 7th Edition. New York: McGraw-Hill Companies; 2009.

37 Thomas CM, Fuller CJ, Whittles CE, Sharif M. Chondrocyte death by apoptosis is associated with cartilage matrix degradation. *Osteoarthritis Cartilage*. 2007;15(1):27–34.

38 Arden N, Blanco FJ, Bruyère O, Cooper C, Guermazi A, Hayashi D, Javaid MK. *Atlas of Osteoarthritis Second edition*. 2018. 112 p.

39 Smith MD, Wechalekar MD. *The synovium.* Rheumatology Sixth Edition. 2014;1–2:27–32.

40 Sumaiya K. *Synovial Membrane* [Internet]. 2018 [cited 2019 Mar 7].

41 Veale DJ, Firestein GS. *Synovium.* Kelley Firestein's Textbook Rheumatology. 2016;40.

42 Petty RE, Cassidy JT. Chronic Arthritis in Childhood. Sixth Edition. *Textbook of Pediatric Rheumatology*. Elsevier Inc.; 2011. 211–235 p.

43 Indonesian Rheumatology Association.. Rekomendasi IRA untuk Diagnosis dan Penatalaksanaan Osteoartritis. 2014. 13 p.

44 Wise J. NICE Keeps Paracetamol in UK Guidelines on Osteoarthritis. *BMJ*. 2014;348(February):1–3.

45 Roger C, McDonagh EMS, Erika N, Jessica G. Analgesics for Osteoarthritis : An Update of the 2006 Comparative Effectiveness. *Comparative Effectiveness Review*. 2011;(38).

46 Knotkova H, Fine PG, Portenoy RK. Opioid Rotation: The Science and the Limitations of the Equianalgesic Dose Table. *Journal of Pain Symptom Manage*. 2009;38(3):426–39.

47 Sehgal N, Collison I, Smith HS. Chronic Pain Treatment with Opioid Analgesics: Benefits Versus Harms of Long-Term Therapy. *Expert Review of Neurotherapeutics*. 2013;13(11):1201–20.

48 Ayhan E. Intraarticular Injections (Corticosteroid, Hyaluronic Acid, Platelet Rich Plasma) for the Knee Osteoarthritis. *World Journal of Orthopedics*. 2014;5(3):351.

49 Widowati W, Wijaya L, Murti H, Widyastuti H, Agustina D, Laksmitawati DR, Fauziyah N, Sumitro SB, Widodo MA, Bachtiar I. Conditioned Medium from Normoxia (WJMSCs-norCM) and Hypoxia-treated WJMSCs (WJMSCs-hypoCM) in Inhibiting Cancer Cell Proliferation. *Biomarkers Genomic Medical*. 2015 Mar;7(1):8–17.

50 Arrighi N. Definition and Classification of Stem Cells. *Stem Cells*. 2018;1–45.

51 RI BK. Undang-undang Republik Indonesia No. 36 tetang Kesehatan. Lembaran Negara Republik Indonesia Tahun 2009 Nomor 144. 2009;2(5):255.

52 Garcia J, Wright K, Roberts S, Kuiper JH, Mangham C, Richardson J, Mennan C. Characterisation of Synovial Fluid and Infrapatellar Fat Pad Derived Mesenchymal Stromal Cells: The Influence Of Tissue Source And Inflammatory Stimulus. *Scientific Reports*. 2016 Apr 13;6:24295.

53 Gazit Z, Pelled G, Sheyn D, Yakubovich DC, Gazit D. Mesenchymal Stem Cells. *Principles of Regenerative Medicine.* Elsevier Inc.; 2019. 205–218 p.

54 Rasini V, Dominici M, Kluba T, Siegel G, Lusenti G, Northoff H, Horwitz EM, Schaver R. Mesenchymal Stromal/Stem Cells Markers In The Human Bone Marrow. *Cytotherapy*. 2013;15(3):292–306.

55 Boxall SA, Jones E. Markers for Characterization of Bone Marrow Multipotential Stromal Cells. *Stem Cells International*. 2012;2012.

56 Jonitz A, Lochner K, Tischer T, Hansmann D, Bader R. TGF-β1 and IGF-1 Influence The Re-Differentiation Capacity of Human Chondrocytes n 3D Pellet Cultures in Relation to Different Oxygen Concentrations. *International Journal Molecular Medicine*. 2012 Sep;30(3):666–72.

57 Zhong L, Huang X, Karperien M, Post JN. Correlation between gene expression and osteoarthritis progression in human. *International Journal Molecular Medicine*. 2016;17(7):1–14.

58 Widowati W, Yanti NLW, Rizal, Novriansyah R, Bastian J, Rachmat O, Fariet A, Suciat T, Sujiatmo AB, Sandra F. *Sel Punca Mesenkim Sebagai Terapi Alternatif Penyakit Oseoartritis*. Boediono A, editor. Jakarta: Penerbit Buku Kedokeran EGC; 2019. 55-59 p.

59 Davatchi F, Sadeghi Abdollahi B, Mohyeddin M, Nikbin B. Mesenchymal Stem Cell Therapy for Knee Osteoarthritis: 5 Years Follow-up of Three Patients. *International Journal of Rheumatoid Disease*. 2016;19(3):219–25.

60 Platas J, Guillén MI, del Caz MDP, Gomar F, Mirabet V, Alcaraz MJ. Conditioned Media from Adipose-Tissue-Derived Mesenchymal Stem Cells Downregulate Degradative Mediators Induced by Interleukin-1 β in Osteoarthritic Chondrocytes . *Mediators of Inflammation*. 2013;2013:1–10.

61 Pawitan JA. Prospect of Stem Cell Conditioned Medium in Regenerative Medicine. *Biomed Research International*. 2014;2014:1–14.

62 ParviziMD J, K.KimMD G. Chapter 39 Cartilage. *High Yield Orthopaedics*. 2010;1:80–1.

63 Mosher TJ. Functional Anatomy and Structure of the "Osteochondral unit". First Edit. *Arthritis in Color*. Elsevier Inc.; 2009. 23–32 p.

64 Gelse K, Po E, Aigner T. *Collagens — structure , function , and biosynthesis*. 2003;55:1531–46.

65 Gudmann NS, Karsdal MA. Chapter 2 - Type II Collagen. Vol. 1. *Biochemistry of Collagens, Laminins and Elastin*. Elsevier Inc.; 2016. 13–20 p.

66 Akiyama H, Lefebvre V. Unraveling the Transcriptional Regulatory Machinery In Chondrogenesis. *Journal of Bone and Mineral Metabolism*. 2011;29(4):390–5.

67 Akiyama H, Chaboissier M-C, Martin JF, Schedl A, Crombrugghe B de. The Transcription Factor Sox9 has Essential Roles in Successive Steps of

The Chondrocyte Differentiation Pathway and is Required for Expression of Sox5 And Sox6. 2002;2813–28.

68 Dopico A, Atcc, Invitrogen. *Cell Culture Basics Handbook*. Atcc. 2014;39(6)

69 Jalali M, Zaborowska J. The Polymerase Chain Reaction: PCR, qPCR, and RT-PCR. *Basic Science Methods for Clinical Researchers.* Elsevier Inc.; 2017. 1–18 p.

70 Farkas DH, Holland CA. Overview of Molecular Diagnostic Techniques and Instrumentation. First Edition. Cell and Tissue Based Molecular Pathology. *Elsevier Inc*.; 2009. 19–32 p.

71 Lynn DE. Cell Culture. *Encycl Insects*. 2009;144–5.

72 Hellemans J, Mortier G, De Paepe A, Speleman F, Vandesompele J. qBase Relative Quantification Framework And Software For Management And Automated Analysis Of Real-Time Quantitative PCR Data. *Genome Bioogyl*. 2008;8(2).

73 Shen C-H. Extraction and Purification of Nucleic Acids and Proteins. *Diagnostic Mol Biol*. 2019;143–66.

74 HiMedia. Dulbecco's Modified Eagle Medium (DMEM) - Product Information. 2011;1–5.

75 Al-Sabah A, Jessop ZM, Whitaker IS, Thornton C. Cell preparation for 3D bioprinting. 3D Bioprinting for Reconstructive Surgery: Techniques and Applications. *Elsevier Ltd.*; 2018. 75–88 p.

76 Afifah E, Mozef T, Sandra F, Arumwardana S, Rihibiha DD, Nufus H, et al. Induction of Matrix Metalloproteinases in Chondrocytes by Interleukin IL-1β as an Osteoarthritis Model. *Journal of Mathematical and Fundamental Sciences*. 2019;51.

77 Stemcell Technology. Description P. Alpha MEM with Nucleosides Handling / Directions For Use. :1–2.

78 Sotiropoulou PA, Perez SA, Salagianni M, Baxevanis CN, Papamichail M. Characterization of the Optimal Culture Conditions for Clinical Scale Production of Human Mesenchymal Stem Cells. Stem Cells. 2006;24(2):462–71.

79 National Center for Biotechnologycal Information. Gentamycin, CID=441305 [Internet]. Pubchem Database; 2019

80 Madrigal M, Rao KS, Riordan NH. A Review Of Therapeutic Effects Of Mesenchymal Stem Cell Secretions And Induction Of Secretory Modification By Different Culture Methods. *Journal of Translational Medicine.* 2014;12(1):1–14.

81 Meiliana A, Dewi NM, Wijaya A. Mesenchymal Stem Cell Secretome: Cell-Free Therapeutic Strategy In Regenerative Medicine. *The Indonesian*

Biomedical Journal. 2019;11(2):113–24ndones Biomed J. 2019;11(2):113–24.

82 Eisenberg E, Levanon EY. Human housekeeping genes, revisited. *Trends Genet*. 2013;29(10):569–74

83 Schmittgen TD, Livak KJ. Analyzing real-time PCR data by the comparative CT method. *Nat Protoc*. 2008;3(6):1101–8.

84 Tang J, Cui W, Song F, Zhai C. Effects of mesenchymal stem cells on interleukin-1 β -treated chondrocytes and cartilage in a rat osteoarthritic model. 2015;1753–60.

85 Molnar C, Garcia-Trevijano ER, Ludwiczek O, Talabot D, Kaser A, Mato JM, Fritsche G, Weiss G, Gabay C, Avila MA, Tilg H. Anti-inflammatory effects of hepatocyte growth factor: Induction of interleukin-1 receptor antagonist. *Europe Cytokine Network*. 2004;15(4):303–11

86 Yue B. Biology of the extracellular matrix: An overview. *Journal of Glaucoma*. 2014;23(8):S20–3.

87 Leung VYL, Gao B, Leung KKH, Melhado IG, Wynn SL, Au TYK, Dung NWF, Lau JYB< Mak ACY, Chan D, Cheah KSE. SOX9 governs differentiation stage-specific gene expression in growth plate chondrocytes via direct concomitant transactivation and repression. *PLoS Genet*. 2011;7(11)

88 Famian MH, Saheb SM, Montaseri A. Conditioned Medium of Wharton's jelly derived stem cells can enhance the cartilage specific genes expression by chondrocytes in monolayer and mass culture systems. *Adv Pharm Bull*. 2017;7(1):123–30

89 Soetjahjo B, Hidayat M, Suyuti H, Fibrianto YH. Lesions Treated with Conditioned Medium of Umbilical Cord Mesencyhmal Stem Cells in Wistar Mice (Rattus novergicus). 2018;8(1):21–7.