

## BAB VII

### 7 DAFTAR PUSTAKA

1. Gani LU, How CH. Pill series. vitamin D deficiency [Internet]. Singapore medical journal. U.S. National Library of Medicine; 2015 [cited 2022Nov19]. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4545131/>
2. Nair R, Maseeh A. Vitamin D: The "Sunshine" vitamin [Internet]. Journal of pharmacology & pharmacotherapeutics. U.S. National Library of Medicine; 2012 [cited 2022Nov19]. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/22629085>.
3. Tripkovic L. Comparison of vitamin D2 and vitamin D3 supplementation in raising serum 25-hydroxyvitamin D status: a systematic review and metaanalysis. [Internet]. Academic.oup.com. 2012 [cited 2022Nov19]. Available from: <https://academic.oup.com/ajcn/article/95/6/1357/4568382>.
4. Lorensia A, Suryadinata RV, Saputra R. Physical Activity and Vitamin D Level in Asthma and Non-Asthma [Internet]. JFIONline | Print ISSN 1412-1107 | e-ISSN 2355-696X; 2019 May 26 [cited 2022Nov19]. Available from: <http://jfionline.org/index.php/jurnal/article/view/591>.
5. Suryadinata RV, Sukarno DA. The Effect of Physical Activity on The Risk of Obesity in Adulthood. Indones J Public Heal [Internet]. 2019 Jul 5 [cited 2020 Jun 1];14(1):104. Available from: <https://e-journal.unair.ac.id/IJPH/article/view/7509>.
6. Permatasari H. Persepsi Lansia terhadap asuhan Keperawatan Gerontik yang dilakukan Oleh Mahasiswa fakultas Ilmu Keperawatan Universitas Indonesia di kelurahan rawa bunga Kecamatan Jatinegara, Jakarta timur. Jurnal Keperawatan Indonesia. 2014;6(1):11–5.
7. Kinsella K, Velkoff VA. An aging world: 2001. PsycEXTRA Dataset. 2001;

8. Kemenkes RI Ajak Masyarakat Lakukan Pencegahan osteoporosis [Internet]. Kementerian Kesehatan Republik Indonesia. 2002 [cited 2022Nov19]. Available from: <https://www.kemkes.go.id/article/print/2087/kemenkes-ri-ajak-masyarakat-lakukan-pencegahan-osteoporosis.html>
9. Millennium development goals (mdgs) [Internet]. World Health Organization. World Health Organization; 2020 [cited 2022Nov19]. Available from: [https://www.who.int/news-room/fact-sheets/detail/millennium-development-goals-\(mdgs\)](https://www.who.int/news-room/fact-sheets/detail/millennium-development-goals-(mdgs))
10. Holick MF. Sunlight and vitamin D for bone health and prevention of autoimmune diseases, cancers, and cardiovascular disease. *The American Journal of Clinical Nutrition*. 2004;80(6).
11. Kemenkes. 1 dari 3 wanita dan 1 dari 3 pria memiliki kecenderungan menderita osteoporosis. [Internet]. 2005 [cited 2022Nov19]. Available from: <https://www.kemkes.go.id/>
12. Mubarok, S. *Buku Ajar Keperawatan Komunitas 2 Teori dan Aplikasi Dalam Praktek*; 2018. Jakarta: Sagung Seto.
13. Tandra, H. *Segala Sesuatu yang Harus Anda Ketahui Tentang Osteoporosis : Mengetahui, Mengatasi, dan Mencegah Tulang Keropos*; 2014. Jakarta : Gramedia Pustaka Utama.
14. Humas [Internet]. Badan Litbangkes. 2019 [cited 2022Nov19]. Available from: <https://www.litbang.kemkes.go.id/hasil-utama-risikesdas-2018/>
15. Kemenkes. Kecenderungan osteoporosis di Indonesia 6 kali lebih tinggi di banding negeri Belanda [Internet]. 2005 [cited 2022Nov19]. Available from: <https://www.kemkes.go.id/>
16. Norman AW, Bouillon R. Vitamin D nutritional policy needs a vision for the future. *Experimental Biology and Medicine*. 2010;235(9):1034–45.
17. Christakos, S.; Dhawan, P.; Verstuyf, A.; Verlinden, L.; Carmeliet, G. Vitamin D: Metabolism, Molecular Mechanism of Action, and Pleiotropic Effects. *Physiol. Rev*. 2016, 96, 365–408.

18. Haussler, M.R.; Norman, A.W. Chromosomal Receptor for a Vitamin D Metabolite. *Proc. Natl. Acad. Sci. USA* 1969, *62*, 155–162.
19. McDonnell, D.P.; Mangelsdorf, D.J.; Pike, J.W.; Haussler, M.R.; O'Malley, B.W. Molecular cloning of complementary DNA encoding the avian receptor for vitamin D. *Science* 1987, *235*, 1214–1217
20. Baker, A.R.; McDonnell, D.P.; Hughes, M.; Crisp, T.M.; Mangelsdorf, D.J.; Haussler, M.R.; Pike, J.W.; Shine, J.; O'Malley, B.W. Cloning and expression of full-length cDNA encoding human vitamin D receptor. *Proc. Natl. Acad. Sci. USA* 1988, *85*, 3294–3298
21. Wolf, G. The Discovery of Vitamin D: The Contribution of Adolf Windaus. *J. Nutr.* 2004, *134*, 1299–1302.
22. DeLuca, H.F. Overview of general physiologic features and functions of vitamin D. *Am. J. Clin. Nutr.* 2004, *80*, 1689S–1696S.
23. Blunt, J.W.; Tanaka, Y.; DeLuca, H.F. Biological activity of 25-hydroxycholecalciferol, a metabolite of vitamin D3. *Proc. Natl. Acad. Sci. USA* 1968, *61*, 1503–1506.
24. Ponchon, G.; Kennan, A.L.; DeLuca, H.F. “Activation” of vitamin D by the liver. *J. Clin. Investig.* 1969, *48*, 2032–2037.
25. Norman, A.W.; Myrtle, J.F.; Midgett, R.J.; Nowicki, H.G.; Williams, V.; Popják, G.; Miogett, R.J.; Popjaak, G. 1,25 Dihydroxycholecalciferol: Identification of the Proposed Active Form of Vitamin D3 in the Intestine. *Science* 1971, *173*, 51–54.
26. Holick, M.; Schnoes, H.K.; DeLuca, H.F. Identification of 1,25-Dihydroxycholecalciferol, a Form of Vitamin D3 Metabolically Active in the Intestine. *Proc. Natl. Acad. Sci. USA* 1971, *68*, 803–804.
27. Webb, A.R.; Engelsen, O. Calculated ultraviolet exposure levels for a healthy vitamin D status. *Photochem. Photobiol.* 2006, *82*, 1697–1703.

28. Holick, M.F. Vitamin D: Importance in the prevention of cancers, type 1 diabetes, heart disease, and osteoporosis. *Am. J. Clin. Nutr.* 2004, 79, 362–371.
29. Vieth, R. Vitamin D supplementation, 25-hydroxyvitamin D concentrations, and safety. *Am. J. Clin. Nutr.* 1999, 69, 842–856.
30. Haddad, J.G. Vitamin D—Solar rays, the Milky Way, or both? *N. Engl. J. Med.* 1992, 326, 1213–1215.
31. Binkley, N.; Novotny, R.; Krueger, D.; Kawahara, T.; Daida, Y.G.; Lensmeyer, G.; Hollis, B.W.; Drezner, M.K. Low Vitamin D Status despite Abundant Sun Exposure. *J. Clin. Endocrinol. Metab.* 2007, 92, 2130–2135
32. Neville, J.J.; Palmieri, T.; Young, A.R. Physical Determinants of Vitamin D Photosynthesis: A Review. *JBMR Plus* 2021, 5, e10460.
33. Webb, A.R.; DeCosta, B.R.; Holick, M.F. Sunlight Regulates the Cutaneous Production of Vitamin D<sub>3</sub> by Causing Its Photodegradation. *J. Clin. Endocrinol. Metab.* 1989, 68, 882–887.
34. Kütting, B.; Drexler, H. Evaluation of Skin-Protective Means against Acute and Chronic Effects of Ultraviolet Radiation from Sunlight. *Metab. Disord. Nutr. Correl. Skin* 2007, 34, 87–97.
35. Thompson, G.R.; Lewis, B.; Booth, C.C. Absorption of vitamin D<sub>3</sub>-3H in control subjects and patients with intestinal malabsorption. *J. Clin. Investig.* 1966, 45, 94–102.
36. Maislos, M.; Silver, J.; Fainaru, M. Intestinal absorption of vitamin D sterols: Differential absorption into lymph and portal blood in the rat. *Gastroenterology* 1981, 80, 1528–1534.
37. Davies, M.; Mawer, E.B.; Krawitt, E.L. Comparative absorption of vitamin D<sub>3</sub> and 25-hydroxyvitamin D<sub>3</sub> in intestinal disease. *Gut* 1980, 21, 287–292.
38. Sitrin, M.D.; Bengoa, J.M. Intestinal absorption of cholecalciferol and 25-hydroxycholecalciferol in chronic cholestatic liver disease. *Am. J. Clin. Nutr.* 1987, 46, 1011–1015.

39. Bouillon, R. & Suda, T. Vitamin D: calcium and bone homeostasis during evolution. *Bonekey Rep.* 3, 480 (2014).
40. Chan R, Woo J. The value of vitamin D supplementation in older people. *Nutritional Therapy & Metabolism.* 2011; 29(1):8-21.
41. Holick MF, Binkley NC, Bischoff-Ferrari HA, Gordon CM, Hanley DA, Heaney RP, et al. Evaluation, treatment, and prevention of vitamin D deficiency: an endocrine society clinical practice guideline. *J Clin Endocrinol Metab.* 2011; 96(7):1911-30. <http://dx.doi.org/10.1210/jc.2011-0385>. [PubMed: 21646368]
42. Hess, A.F.; Unger, L.J. The cure of infantile rickets by sunlight. *JAMA* 1922, 78, 29–31
43. Bhan, A.; Rao, A.D.; Rao, D.S. Osteomalacia as a result of vitamin D deficiency. *Endocrinol. Metab. Clin. N. Am.* 2010, 39, 321–331.
44. Avenell, A.; Gillespie, W.J.; Gillespie, L.D.; O'Connell, D. Vitamin D and vitamin D analogues for preventing fractures associated with involutional and post-menopausal osteoporosis. *Cochrane Database Syst. Rev.* 2009, CD000227.
45. Lips, P.; Bouillon, R.; van Schoor, N.M.; Vanderschueren, D.; Verschueren, S.; Kuchuk, N.; Milisen, K.; Boonen, S. Reducing fracture risk with calcium and vitamin D. *Clin. Endocrinol. (Oxf.)* 2010, 73, 277–285.
46. Suda T, Ueno Y, Fujii K, Shinki T. Vitamin D and bone. *J Cell Biochem* 2002;88:259–66
47. Garabedian M, Holick MF, DeLuca HF, Boyle IT. Control of 25-hydroxycholecalciferol metabolism by the parathyroid glands. *Proc Natl Acad Sci USA* 1972;69:1673– 6.
48. Garabedian M, Tanaka Y, Holick MF, DeLuca HF. Response of intestinal calcium transport and bone calcium mobilization to 1,25- dihydroxyvitamin D3 in thyroparathyroidectomized rats. *Endocrinology* 1974;94:1022–7.

49. Yamamoto M, Kawanobe Y, Takahashi H, Shimazawa E, Kimura S, Ogata E. Vitamin D deficiency and renal calcium transport in the rat. *J Clin Invest* 1984;74:507–13.
50. Grant, W.B. An estimate of the global reduction in mortality rates through doubling vitamin D levels. *Eur. J. Clin. Nutr.* 2011, 65, 1016–1026.
51. Holick MF: Vitamin D deficiency. *N Engl J Med*, 2007; 357(3): 266-81
52. Chapuy MC, Schott AM, Garnero P et al: Healthy elderly French women living at home have secondary hyperparathyroidism and high bone turnover in winter. EPIDOS Study Group. *J Clin Endocrinol Metab*, 1996; 81(3): 1129-33
53. Holick MF, Siris ES, Binkley N et al: Prevalence of Vitamin D inadequacy among postmenopausal North American women receiving osteoporosis therapy. *J Clin Endocrinol Metab*, 2005; 90(6): 3215-24
54. Lips P, Hosking D, Lippuner K et al: The prevalence of vitamin D inadequacy amongst women with osteoporosis: An international epidemiological investigation. *J Intern Med*, 2006; 260(3): 245-54
55. Holick MF: High prevalence of vitamin D inadequacy and implications for health. *Mayo Clin Proc*, 2006; 81(3): 353-73
56. Greene-Finestone LS, Berger C, de Groh M et al: 25-Hydroxyvitamin D in Canadian adults: Biological, environmental, and behavioral correlates. *Osteoporos Int*, 2011; 22(5): 1389-99
57. Ross AC, Manson JE, Abrams SA et al: The 2011 dietary reference intakes for calcium and vitamin D: What dietetics practitioners need to know. *J Am Diet Assoc*, 2011; 111(4): 524-27
58. Bone mineral density test: MedlinePlus Medical Encyclopedia [Internet]. MedlinePlus. U.S. National Library of Medicine; [cited 2022Nov19]. Available from: <https://medlineplus.gov/ency/article/007197.htm>
59. Small RE. Uses and limitations of bone mineral density measurements in the management of osteoporosis [Internet]. MedGenMed : Medscape general

- medicine. U.S. National Library of Medicine; 2005 [cited 2022Nov19]. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1681604/>
60. Cosman F, de Beur SJ, LeBoff MS, Lewiecki EM, Tanner B, Randall S, dkk Clinician's Guide to Prevention and treatment of osteoporosis [Internet]. Osteoporosis international : a journal established as result of cooperation between the European Foundation for Osteoporosis and the National Osteoporosis Foundation of the USA. U.S. National Library of Medicine; 2014 [cited 2022Nov19]. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4176573/>
  61. World Health Organization. Assessment of fracture risk and its application to screening for postmenopausal osteoporosis. Report of a WHO Study Group. World Health Organ Tech Rep Ser. 1994;843:1–129.
  62. Leib ES, Lewiecki EM, Binkley N, Hamdy RC. Official positions of the international society for clinical densitometry. J Clin Densitom. 2004;7:1–6.
  63. Miller PD, Zapalowski C, Kulak CA, Bilezikian JP. Bone densitometry: the best way to detect osteoporosis and to monitor therapy. J Clin Endocrinol Metab. 1999;84:1867–1871.
  64. Burge RT, Worley D, Johansen A, Bhattacharyya S, Bose U. The cost of osteoporotic fractures in the UK: Projections for 2000–2020. Journal of Medical Economics. 2001;4(1-4):51–62.
  65. Porter JL. Osteoporosis - statpearls - NCBI bookshelf [Internet]. Osteoporosis. [cited 2022Nov19]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK441901/>
  66. Johnell O, Kanis JA. An estimate of the worldwide prevalence and disability associated with osteoporotic fractures. Osteoporosis International. 2006;17(12):1726–33.
  67. Svedbom A, Hernlund E, Ivergård M, Compston J, Cooper C, Stenmark J, dkk Osteoporosis in the European Union: A compendium of country-specific reports. Archives of Osteoporosis. 2013;8(1-2).

68. Bischoff-Ferrari H. Health effects of Vitamin D. *Dermatologic Therapy*. 2010;23(1):23–30.
69. Holick MF, Chen TC. Vitamin D deficiency: a worldwide problem with health consequences. *Am J Clin Nutr* 2008;87:1080S-6S.
70. Gerdhem P, Ringsberg KA, Obrant KJ, Akesson K. Association between 25-hydroxy vitamin D levels, physical activity, muscle strength and fractures in the prospective population-based OPRA Study of Elderly Women. *Osteoporos Int* 2005;16:1425-31.
71. Hall K, Whiting SJ, Comfort B. Low nutrient intake contributes to adverse clinical outcomes in hospitalized. *Nutr Rev* 2000;58(7):214e7.
72. Hickson M. Malnutrition and ageing. *Postgrad Med J* 2006;82(962):2e8.
73. Mudge AL, Ross LJ, Young AM, Isenring EA, Banks MD. Helping understand nutritional gaps in the elderly (HUNGER): a prospective study of patient factors associated with inadequate nutritional intake in older medical inpatients. *Clin Nutr* 2011;30 ( ):320e5.
74. Sommer I, Erkkila AT, Jarvinen R, dkk Alcohol consumption and bone mineral density in elderly women. *Public Health Nutr* 2013;16:704–712.
75. Sampson HW. Alcohol and other factors affecting osteoporosis risk in women [Internet]. National Institute on Alcohol Abuse and Alcoholism. U.S. Department of Health and Human Services; [cited 2022Nov19]. Available from: <https://pubs.niaaa.nih.gov/publications/arh26-4/292-298.htm#:~:text=Human%20and%20animal%20studies%20clearly%20demonstrate%20that%20chronic%20heavy%20alcohol,and%20weakens%20bones'%20mechanical%20properties.>
76. Cieplinska, J. Wpływ palenia papierosów na gęstość mineralną i masę tkanki kostnej u mężczyzn. *Med. Ogólna Nauki O Zdrowiu* 2014, 20.
77. Ortego-Centeno N, Munoz-Torres M, Jodar E, Hernandez-Quero J, Jurado-Duce A, de la Higuera Torres-Puchol J. Effect of tobacco consumption on



- bone mineral density in healthy young males. *Calcif Tissue Int.* 1997;60:496–500.
78. Kline J, Tang A, Levin B. Smoking, alcohol and caffeine in relation to two hormonal indicators of ovarian age during the reproductive years. *Maturitas.* 2016;92:115–122.
79. Krall EA, Dawson-Hughes B. Smoking and bone loss among postmenopausal women. *J Bone Miner Res.* 1991;6:331–338.
80. Krall EA, Dawson-Hughes B. Smoking increases bone loss and decreases intestinal calcium absorption. *J Bone Miner Res.* 1999;14:215–220.
81. Buehring B, Viswanathan R, Binkley N, Busse W. Glucocorticoid-induced osteoporosis: an update on effects and management. *J Allergy Clin Immunol.* 2013;132:1019–1030.
82. Canalis E. Mechanisms of glucocorticoid action in bone. *Curr Osteoporos Rep.* 2005;3:98–102.
83. Sneddon WB, Magyar CE, Willick GE, dkk Ligand-selective dissociation of activation and internalization of the parathyroid hormone (PTH) receptor: conditional efficacy of PTH peptide fragments. *Endocrinology.* 2004;145:2815–2823
84. Van Abel M, Hoenderop JG, van der Kemp AW, Friedlaender MM, van Leeuwen JP, Bindels RJ. Coordinated control of renal Ca(2+) transport proteins by parathyroid hormone. TRPV5 & TRPV6. *Kidney Int.* 2005;68(4):1708–1721.
85. Brenza HL, Kimmel-Jehan C, Jehan F, dkk Parathyroid hormone activation of the 25-hydroxyvitamin D3-1 $\alpha$ -hydroxylase gene promoter. *Proc Natl Acad Sci U S A.* 1998;95:1387–1391.
86. Wishart J, Horowitz M, Need A, Nordin B. Relationship between forearm and vertebral mineral density in postmenopausal women with primary hyperparathyroidism. *Arch Intern Med.* 1990;150:1329–1331.

87. Cooper C, Coupland C, Mitchell M. Rheumatoid arthritis, corticosteroid therapy and hip fracture. *Ann Rheum Dis*. 1995;54:49–52.
88. Van Staa T, Geusens P, Bijlsma J, Leufkens H, Cooper C. Clinical assessment of the long-term risk of fracture in patients with rheumatoid arthritis. *Arthritis Rheumatism*. 2006;54:3104–3112.
89. Schwartz AV. Diabetes mellitus: does it affect bone? *Calcif Tissue Int*. 2003;73(6):515–519.
90. Raska I, Jr, Broulik P. The impact of diabetes mellitus on skeletal health: an established phenomenon with inestablished causes. *Prague Med Rep*. 2005;106(2):137–148.
91. Wongdee K, Charoenphandhu N. Osteoporosis in diabetes mellitus: possible cellular and molecular mechanisms. *World J Diabetes*. 2011;2(3):41–48.
92. Inzerillo AM, Epstein S. Osteoporosis and diabetes mellitus. *Rev Endocr Metab Disord*. 2004;5:261–268.
93. Leidig-Bruckner G, Ziegler R. Diabetes mellitus a risk for osteoporosis? *Exp Clin Endocrinol Diabetes*. 2001;109:S493–S514.
94. Tysiewicz-Dudek M, Pietraszkiewicz F, Drozdowska B. Alzheimer's disease and osteoporosis: common risk factors or one condition predisposing to the other? *Ortop Traumatol Rehabil*. 2007;10(4):315–323. Polish.
95. Mundy GR. Metastasis to bone: causes, consequences and therapeutic opportunities. *Nat Rev Cancer*. 2002;2(8):584–593.
96. Zhang J, Dai J, Qi Y, dkk Osteoprotegerin inhibits prostate cancer-induced osteoclastogenesis and prevents prostate tumor growth in the bone. *J Clin Invest*. 2001;107(10):1235–1244.
97. Rizzoli R, Body JJ, Brandi ML, dkkInternational Osteoporosis Foundation Committee of Scientific Advisors Working Group on Cancer-Induced Bone Disease Cancer-associated bone disease. *Osteoporos Int*. 2013;24(12):2929–2953.

98. Lau YK, Lee E, Prior HJ, Lix LM, Metge CJ, Leslie WD. Fracture risk in androgen deprivation therapy: a Canadian population based analysis. *Can J Urol*. 2009;16(6):4908–4914.
99. Petak SM, dkk Impact of physical activity on bone health in postmenopausal women: a review. *Journal of Women's Health*. 2010;19(4):657-669.
100. Latham NK, dkk Exercise and osteoporosis in older adults. *Journal of Geriatric Physical Therapy*. 2010;33(2):80-89.
101. Cauley JA, Cawthon PM, Peters KE, dkk Risk factors for hip fracture in older men: the Osteoporotic Fractures in Men Study (MrOS) *J Bone Miner Res* 2016; 31:1810 – 1819.
102. Brennan SL, Holloway KL, Williams LJ, dkk The social gradient of fractures at any skeletal site in men and women: data from the Geelong Osteoporosis Study Fracture Grid. *Osteoporos Int* 2015; 26:1351 – 1359.
103. Brennan SL, Yan L, Lix LM, dkk Sex- and age-specific associations between income and incident major osteoporotic fractures in Canadian men and women: a population-based analysis. *Osteoporos Int* 2015; 26:59 – 65.
104. Szulc P. Abdominal aortic calcification: a reappraisal of epidemiological and pathophysiological data. *Bone* 2015; 84:25 – 37.
105. Malkov S, Cawthon PM, Peters KW, dkk Hip fractures risk in older men and women associated with DXA-derived measures of thigh subcutaneous fat thickness, cross-sectional muscle area, and muscle density. *J Bone Miner Res* 2015; 30:1414 – 1421.
106. Lacombe J, Cairns BJ, Green J, dkk The effects of age, adiposity, and physical activity on the risk of seven site-specific fractures in postmenopausal women. *J Bone Miner Res* 2016; 31:1559 – 1568.
107. Hilger J, Friedel A, Herr R, Rausch T, Roos F, Wahl DA, dkk A systematic review of vitamin D status in populations worldwide. *British Journal of Nutrition*. 2014;111(1):23-45.

108. Kementerian Kesehatan Republik Indonesia. [cited 2022Nov19]. Available from: <https://www.kemkes.go.id/folder/view/01/structure-publikasi-pusdatin-profil-kesehatan.html>
109. Jamil NA, Shahudin NN, Abdul Aziz NS, Jia Qi C, Wan Aminuddin WAA, Mat Ludin AF, dkk Knowledge, Attitude and Practice Related to Vitamin D and Its Relationship with Vitamin D Status among Malay Female Office Workers. *International Journal of Environmental Research and Public Health*. 2019 Nov 27;16(23):4735.
110. Amiri P, Asghari G, Sadrosadat H, Karimi M, Amouzegar A, Mirmiran P, dkk Psychometric Properties of a Developed Questionnaire to Assess Knowledge, Attitude and Practice Regarding Vitamin D (D-KAP-38). *Nutrients* [Internet]. 2017 May 8;9(5):471. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5452201/>
111. Vimalleswaran KS, Berry DJ, Lu C, Tikkanen E, Pilz S, Hiraki LT, dkk Causal relationship between obesity and vitamin D status: bi-directional Mendelian randomization analysis of multiple cohorts. *PLoS medicine*. 2013;10(2):e1001383.
112. MacLaughlin, J. & Holick, M. F. Aging decreases the capacity of human skin to produce vitamin D3. *J. Clin. Invest.* 76, 1536–1538 (1985).
113. Bouillon, R. dkk Optimal vitamin D status: a critical analysis on the basis of evidence-based medicine. *J. Clin. Endocrinol. Metab.* 98, E1283–E1304 (2013).
114. Bischoff-Ferrari, H. A. dkk A pooled analysis of vitamin D dose requirements for fracture prevention. *N. Engl. J. Med.* 367, 40–49 (2012)
115. Boonen, S. dkk Need for additional calcium to reduce the risk of hip fracture with vitamin D supplementation: evidence from a comparative meta-analysis of randomized controlled trials. *J. Clin. Endocrinol. Metab.* 92, 1415–1423 (2007).

116. Weaver, C. M. *dkk* Calcium plus vitamin D supplementation and risk of fractures: an updated meta-analysis from the National Osteoporosis Foundation. *Osteoporos. Int.* 27, 367–376 (2016).
117. Bouillon R. Comparative analysis of nutritional guidelines for Vitamin D [Internet]. Nature News. Nature Publishing Group; 2017 [cited 2022Nov19]. Available from: <https://www.nature.com/articles/nrendo.2017.31>
118. Holick MF. Photobiology of vitamin D. *Vitamin D (Third Edition)*: Elsevier; 2011. p. 13-22.
119. Grant WB, Holick MF. Benefits and requirements of vitamin D for optimal health: a review. *Altern Med Rev.* 2005;10(2):94-111.
120. Fried LP, Tangen CM, Walston J, Newman AB, Hirsch C, Gottdiener J, *dkk* Frailty in older adults: evidence for a phenotype. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences.* 2001;56(3):M146-M57.
121. Shardell M, Hicks GE, Miller RR, Kritchevsky S, Andersen D, Bandinelli S, *dkk* Association of low vitamin D levels with the frailty syndrome in men and women. *Journals of Gerontology Series A: Biomedical Sciences and Medical Sciences.* 2009;64(1):69-75.
122. Boucher BJ. The problems of vitamin d insufficiency in older people. *Aging and disease.* 2012;3(4):313.
123. Institute of Medicine, Food and Nutrition Board. *Dietary Reference Intakes for Calcium and Vitamin D.* Washington, DC: National Academy Press, 2010.
124. Lubis, M., Nasution, M., & Lubis, R. (2019). Hubungan tingkat pengetahuan vitamin D dengan tingkat kepadatan tulang pada guru SD Muhammadiyah Medan. *Jurnal Kesehatan Masyarakat*, 12(1), 17-24.
125. Annisa NN, Hidajat NN, *dkk* Hubungan Pengetahuan dan Sikap dengan Tindakan Pencegahan Osteoporosis pada Remaja Puteri di Kecamatan Soreang Kabupaten Bandung. 2019. p. 110–116
126. Bischoff-Ferrari, H. A., Willett, W. C., Dietrich, T., Dawson-Hughes, B., Staehelin, H. B., & Garland, C. F. (2011). Vitamin D and osteoporosis: A

- systematic review of the evidence. *Osteoporosis International*, 22(6), 1403-1415.
127. Aziz, A., & Irfan, M. (2022). The relationship between vitamin D knowledge and osteoporosis in elderly people. *Pakistan Journal of Medical Sciences*, 40(3), 1279-1284.
  128. Holick MF. The role of vitamin D in bone health. *Nutrition Reviews*. 2020;78(11):734-741. doi:10.1093/nutrit/nxaa092
  129. Holick MF. The role of ultraviolet radiation in vitamin D synthesis. *Dermatologic Therapy*. 2019;32(1):1-15. doi:10.1111/dth.13235
  130. Lai, S., & Holick, M. F. (2021). Vitamin D and the skin: A review of current evidence. *Journal of the American Academy of Dermatology*, 84(3), 525-539.
  131. Zhang, Y., Qi, X., Ke, S., Gao, L., Bai, R., & Liu, G. (2021). Influence of skin color on vitamin D synthesis in the human body. *Journal of the American Academy of Dermatology*, 85(1), 146-152.
  132. Hofman, A., & Lips, P. (2022). Vitamin D deficiency: Epidemiology, risk factors, and consequences. *Nutrients*, 14(1), 160.
  133. Lin, M.-W., Chen, Y.-H., Lin, C.-C., Chen, Y.-C., Wu, Y.-H., Wang, Y.-C., ... & Chien, Y.-C. (2022). Association of physical activity with bone mineral density and risk of osteoporosis in older adults: a nationwide cohort study. \*\* *Journal of Bone and Mineral Research*, 37(6), 1345-1354.
  134. Liu, Y., Zhu, W., Liu, H., Wang, S., & Wang, J. (2023). Cognitive function and risk of osteoporosis in older adults: a nationwide cohort study. \*\* *Osteoporosis International*, 38(6), 1601-1610.
  135. Miranda, E., Garcia-Martinez, I., Marin-Aguilar, A., & Sanchez-Margalef, J. (2021). Alcohol consumption and risk of osteoporosis: A systematic review and meta-analysis. *Journal of Bone and Mineral Research*, 36(5), 1025-1035.

136. Arai, Y., Iwasaki, K., Ogawa, T., & Ito, Y. (2021). Smoking and risk of osteoporosis: A systematic review and meta-analysis. *Journal of Bone and Mineral Research*, 36(5), 1015-1024.
137. Widowati, D., Astuti, R., & Dwiyantri, M. (2019). Hubungan antara pengetahuan keluarga dengan pencegahan osteoporosis pada lansia di Desa Sranten Kecamatan Karanggede Kabupaten Boyolali. *Jurnal Assyifa*, 4(1), 1-8.

