

## DAFTAR PUSTAKA

1. Goh C, Cheng C, Agak G, Zaenglein AL, Graber E, Thiboutot D, dkk. Acne vulgaris. Dalam: Kang S, Amagai M, Bruckner AL, Enk AH., Margolis DJ, McMichael AJ, Orringer JS, penyunting. Fitzpatrick's Dermatology Edisi ke-9. New York: McGraw-Hill; 2019. hlm. 1391-22.
2. Zaenglein AL, Thiboutot DM. Acne vulgaris. Dalam: Bologna JL, Jorizzo JL, Schaffer JV, penyunting. Dermatology. Edisi ke-3. Cina: Elsevier; 2012. hlm. 545-59.
3. Layton AM, Eady EA, Zouboulis CC. Acne. Dalam: Griffiths CEM, Barker J, Bleiker T, Chalmers R, Creamer D, penyunting. Rook's textbook dermatology. Edisi ke-9. West Sussex: John Willey & Sons, Ltd; 2016. hlm. 90.1-.65.
4. Tuchayi SM, Makrantonaki E, Ganceviciene R, Dessinioti C, Feldman SR, Zouboulis CC. Acne vulgaris. Nat Rev Dis Primers. 2015;1:1-20.
5. Darwish MA, Al-Rubaya AA. Knowledge, beliefs, and psychosocial effect of acne vulgaris among Saudi acne patients. ISRN Dermatol. 2013;1:1-6.
6. Thiboutot D, Gollnick H. New insights into the management of acne: An update from global alliance to improve outcomes in acne group. J Am Acad Dermatol. 2009;60:S1-50.
7. Suh DH, Shin JW, Min SW, Lee DH, Yoon MY, Kim NI, dkk. Treatment seeking behaviours and related epidemiological features in Korean acne patients. J Korean Med Sci. 2008;23:969-74.
8. Tan JK, Bhate K. A global perspective on the epidemiology of acne. Br J Dermatol. 2015;172(S1):3-12.
9. Bhate K, Williams H. Epidemiology of acne vulgaris. Br J Dermatol. 2013;168(3):478-85.
10. Al-Rubiay KK, Al-Rubaiy LK. Dermatoepidemiology: A household survey among two urban areas in Basrah City, Iraq. Internet J Dermatol. 2005;4(2):10.
11. Shen Y, Wang T, Zhou C, Wang X, Ding X, Tian S, dkk. Prevalence of acne vulgaris in Chinese adolescents and adults: A community-based study of 7,345 subjects in six cities. Acta Derm Venereol. 2012;92(1):40-4.

12. Murlistyarini S, Nugroho ARL, Sari DT, Mandasari S. Precipitating factors of acne vulgaris at Dr. Saiful Anwar Hospital Malang. *Jurnal Berkala Epidemiologi*. 2021; 9 (3):257-265.
13. Prasad SB. Acne vulgaris: a review of pathophysiology and treatment. *Asian J Pharm Clin Res*. 2016. (9)4: 54-59.
14. Cunliffe WJ, Holland DB, Jeremy A. Comedone formation: etiology, clinical presentation and treatment. *J Clin Dermatol*. 2004.22:367-74.
15. Gribbon EM, Cunliffe WJ, Holland KT. Interaction of *Propionibacterium acnes* with skin lipids in vitro. *J Gen Microbiol*. 1993; 139:1745-51.
16. Lovečková Y, Havlíková I. A microbiological approach to acne vulgaris. *Biomed. Papers*. 2002; 146(2): 29–32
17. Kligman AM, Wheatley VR, Mills OH. Comedogenicity of human sebum. *Arc Derm*.1970;9:267-75.
18. Strauss J, Pochi PE. Intracutaneous injection of sebum and comedones: histological observation. *Arch Dermatol*. 1965; 92: 443-56.
19. Lee WL, Shalita AR, Suntharalingam, Fikrig SM. Neutrophil chemotaxis by *Propionibacterium acnes* lipase and its inhibition. *Infect Immun*.1982; 1:71-78
20. Tucker SB, Rogers III RS, Winkelmann RK. Privett OS, Jordon RE. Inflammation in acne vulgaris: Leukocyte attraction and cytotoxicity by comedonal material. *J Invest Dermatol*.1980; 74:21-25.
21. Katsuta Y, Iida T, Inomata S, Denda M. Unsaturated fatty acids induce calcium influx into keratinocytes and cause abnormal differentiation of epidermis. *J Invest Dermatol*. 2005; 124: 1008-13.
22. Grice EA, Segre JA. The skin microbiome. *Nat Rev Microbiol*. 2011;9(4):244-53.
23. Byrd AL, Belkaid Y, Segre JA. The human skin microbiome. *Nat Rev Microbiol*. 2018; 16(3): 143-155
24. Scharschmidt TC, Fischbach MA. What lives on our skin: ecology, genomics and therapeutic opportunities of the skin microbiome. *Drug Discov Today Dis Mech*. 2013;10(3):e83-e9.

25. Srikant M, Kaylani C, Mohan N, Sridhar K, Padmaja I. Bacteriology of acne. *J Evolution Med Dent Sci*. 2015;4:3267-74.
26. Beylot C, Auffret N, Poli F, Claudel JP, Leccia MT, Giudice PD, Dreno B. *Propionibacterium acnes* : an update on its role in the pathogenesis of acne. *JAEDV*.2013; 28(3).271-8.
27. Dreno B, Martin R, Moyal D, Henley JB, Khammari A, Seité S. Skin microbiome and acne vulgaris: *Staphylococcus*, a new actor in acne. *Exp Dermatol*. 2016;26:798-803.
28. Dessinioti C, Katsambas A. *Propionibacterium acnes* and antimicrobial resistance in acne. *Clin Dermatol*. 2017;35(2):163-7.
29. Kumar B, Pathak R, Mary PB, Jha D, Sardana K, Gautam HK. New insights into acne pathogenesis: Exploring the role of acne-associated microbial populations. *Derm Sinica*. 2016;34(2):67-73.
30. Kurokawa I, Nishijima S, Kawabata S. Antimicrobial susceptibility of *Propionibacterium acnes* isolated from acne vulgaris. *Eur J Dermatol* 1999;9: 25–8.
31. Shehadeh NH, Kligman AM. The bacteriology of acne. *Arch Dermatol*.1963.829-31
32. Fitz-Gibbon S, Tomida S, Chiu B,Nguyen L, Du C, Liu M. *Propionibacterium acnes* strain populations in the human skin microbiome associated with acne. *J Invest Dermatol*. 2013;133:2152-60.
33. Hindritiani R, Soedarwoto A, Ruchiatan K, Suwarsa O, Budiarti M, Husadani D, et al. Resistensi antibiotik propionibacterium acnes dari berbagai lesi kulit akne vulgaris di rumah sakit dr. Hasan sadikin bandung. *Media Dermato-Venereologica Indonesiana*. 2017;38:15-9.
34. Shaheen B, Gonzalez M. A microbial aetiology of acne: What is the evidence? *Br J Dermatol*. 2011;165:474-85.
35. Biswal I, Gaiind R, Kumar N, Mohanty S, Manchanda V, Khunger N, dkk. In vitro antimicrobial susceptibility patterns of *Propionibacterium acnes* isolated from patients with acne vulgaris. *J Infect Dev Ctries*. 2016;10(10):1140-5.
36. Ali YH. Study about the relationship of some aerobic anaerobic bacteria of acne and its resistance to some of plant extracts. *Int J Sci Res*. 2018;6(6):1291-94.

37. Rocha M, Bagatin E. Skin barrier and microbiome in acne. *Arch Dermatol Res.* 2017;1-5.
38. Grice EA, Kong HH, Conlan S, Deming CB, Davis J, Yong AC, dkk. Topographical and temporal diversity of the human skin microbiome. *Science.* 2009; 324 (5931): 1190-1192.
39. Pathak R, Kasama N, Kumar R, Gautama HK. *Staphylococcus epidermidis* in human skin microbiome associated with acne: a cause of disease or defence? *Res J Biothechnol.* 2013;8:79-82.
40. Das S, Reynolds RV. Recent advances in acne pathogenesis: implication for therapy. *Am J Clin Dermatol.* 2014. 15(6): 479-88.
41. Nakase K, Nakaminami H, Takenaka Y, Hayashi N, Kawashima M, Noguchi N. Relationship between the severity of acne vulgaris and antimicrobial resistance of bacteria isolated from acne lesions in a hospital in Japan. *J Med Microbiol.* 2014;63(5):721-8.
42. Moon SH, Roh HS, Kim YH, Kim JE, Ko JY, Ro YS. Antibiotic resistance of microbial strains isolated from Korean acne patients. *J Dermatol.* 2012;39(10):833-7.
43. Jusuf NK, Putra IB, Sari L. Difference of microbiome found in non-inflammatory and inflammatory lesions of acne vulgaris. *Clin Cosmet Invest Dermatol.* 2020; 13: 773-780.
44. Ruchiatan K, Hafinah R, Hindritiani R, Sutedja E, Gunawan H, dkk. Bacterial profile and antibiotic resistance from comedone of acne vulgaris patients in West Java, Indonesia. *Sapporo Med J.* 2020; 54(05):1-6
45. Doss RW, Mostafa AM, Arafa AE, Radi NA. Relationship between lipase enzyme and antimicrobial susceptibility of *Staphylococcus aureus* positive and *Staphylococcus epidermidis* positive isolated from acne vulgaris. *J Egypt Women Dermatol Soc.* 2017;14:167-72
46. Natoli S, Fontana C, Favaro M, Bergamini A, Testore GP, Minelli S. dkk. Characterization of coagulase-negative staphylococcal isolates from blood with reduced susceptibility to glycopeptides and therapeutic options. *BMC Infect Dis.* 2009; 9(83):1-8.
47. Pilz M, Stasts K, Tobudic S, Assadian O, Presteri E, dkk. Zirconium nitride coating reduced *Staphylococcus epidermidis* biofilm formation on orthopedic implant surfaces: An in vitro study. *Clin Orthop Rlat Res.* 2019; 477:461-466.

48. Hon KL, Tsang YCK, Pong NH, Leung TF, Ip M. Exploring *Staphylococcus epidermidis* in atopic eczema: friend or foe?. *Clin Exp Dermatol*. 2016; 41(6):659-663.
49. Claudel JP, Auffret N, Leccia MT, Poli F, Corvec S, Dreno B. *Staphylococcus epidermidis*: A potential new player in the physiopathology of acne? *Dermatology*. 2019; 235:287-294.
50. Saising J, Singdam S, Ongsakul M, Voravuthikunchai SP. Lipase, protease, and biofilm as the major virulence factors in staphylococci isolated from acne lesions. *Bioscience Trends*. 2012; 6(4): 160-4.
51. Bek-Thomsen, Lomholt HB, Kilian M. Acne is not associated with yet-uncultured bacteria. *J Clin Microbiol*. 2008. 3355-60.
52. Loss M, Thompson KG, Agostinho-Hunt A, James GA, Mongodin EF, Rosenthal I, dkk. Noninflammatory comedones have greater diversity in microbiome and are more prone to biofilm formation than inflammatory lesions of acne vulgaris. *Int J Dermatol*. 2021;60(5):589-96.
53. Coenye T, Peeters E, Nelis HJ. Biofilm formation by *Propionibacterium acnes* is associated with increased resistance to antimicrobial agents and increased production of putative virulence factors. *J Res Microbiol*. 2007. 158; 386-92.
54. Burkhart CN, Burkhart CG. Microbiology's principle of biofilms formation as a major factor in the pathogenesis of acne vulgaris. *Intl J Dermatol*. 2003; 42:925-27.
55. Brandwein M, Steinberg D, Meshner S. Microbial biofilms and the human skin microbiome. *NPJ Biofilms Microbiomes*. 2016. Melalui: <http://doi: 10.1038/s41522-016-0004-z>
56. Vasudevan R. Biofilms: Microbial Cities of Scientific Significance. *J Microbiol Exp* 1(3): 00014. DOI: 10.15406/jmen.2014.01.00014
57. Holmberg A, Lood R, Morgelin M, Soderquist B, Holst E, Christensson B, dkk. Biofilm formation by *Propionibacterium acnes* is characteristic of invasive isolates. *Clin Microbiol Infect*. 2009. 8; 787-95.
58. Coenye T, Honraet K, Rossel B, Nelis HJ. Biofilms in skin infections: *Propionibacterium acnes* and acne vulgaris. *Infect Disord Drug Targets*. 2008; 8(3): 156-9.
59. Linfante A, Allawh RM, Allen HB. The role of *Propionibacterium acnes* biofilm in acne vulgaris. *J Clin Exp Dermatol Res*. 2018. 9-1

60. Jahns AC, Lundskog B, Ganceviciene R, Palmer RH, Golovleva I, Zoubilis CC. An increased incidence of *Propionibacterium acnes* biofilms in acne vulgaris: a case–control study. *Br J Dermatol*. 2012;167:50-8.
61. Gowda A, Burkhart CG. Virulent acne biofilms offer insight into novel therapeutic options. *Open Dermatol J*. 2018; 9(12):80-85.
62. Burkhart CG, Burkhart CN. Expanding microcomedone theory and acne therapeutics: *Propionibacterium acnes* biofilm produces biological glue that holds corneocytes together to form plug. *J Am Acad Dermatol*. 2007; (57)4:722-24.
63. Christensen GJM, Scholz CFP, Enghild J, Rohde H, Kilian M, Thurmer A, dkk. Antagonism between *Staphylococcus epidermidis* and *Propionibacterium acnes* and its genomic basis. *BMC Genomics*. 2016; 17 (152):1-14.
64. Harboe YS, Graber EM. Easy as PIE (postinflammatory erythema). *J Clin Aesthet Dermatol*. 2013;6(9):46-7.
65. Villar GN, Filho JFS, Dos Santos LA. Quality of life, self-esteem, and psychosocial factors in adolescents with acne vulgaris. *An Bras Dermatol*. 2015;90(5):622-9.
66. Ramli R, Malik AS, Fadzil A, Hani AFM, Jamil A. Acne analysis, grading and computational assessment methods: an overview. *Skin Res Technol*. 2012; 18:1-14.
67. Goh CL, Casintahan FA, Baba R, Chan LC, Hung NT,dkk. South-East Asia study alliance guidelines on the management of acne vulgaris in South-East Asian patients. *J Dermatol*. 2015; 42(10):945-53.
68. Lehmann HP, Robinson KA, Andrews JS, Holloway V, Goodman SV. Acne therapy: a methodologic review. *J Am Acad Dermatol*. 2002; 47:231-40.
69. Wasitaatmadja SM, Ariomuko A, Norawati L, Bernadette I, Legiawati L, penyunting. *Pedoman tata laksana akne di Indonesia*. Indonesian Acne Expert Meeting 2015. 2<sup>nd</sup> Ed. Jakarta: KSDKI; 2015.p.1-14.
70. Saurat JH. Strategic targets in acne: the comedone switch in question. *Dermatology*.2015. Melalui <http://DOI:10.1159/000382031>.
71. Tanghetti EA. The role of inflammation in the pathology of acne. *J Clin Aesthet Dermatol*. 2013;6(9):27-35.

72. Bhat YJ, Latief I, Hassan I. Update on etiopathogenesis and treatment of acne. *Ind J Dermatol.* 2017;83(3):298-306.
73. Mourelatos K, Eady EA, Cunliffe WJ, Clark SM, Cove JH. Temporal changes in sebum excretion and propionibacterial colonization in preadolescent children with and without acne. *Br J Dermatol.* 2007; 156(1): 22–3.
74. Pochi PE, Strauss JS, Downing DT. Skin surface lipid composition, acne, pubertal development, and urinary excretion of testosterone and 17-ketosteroids in children. *J Invest Dermatol.* 1977; 69(5): 485–89.
75. Makrantonaki E, Ganceviciene R, Zoubolis C. An update on the role of the sebaceous gland in the pathogenesis of acne. *Dermatol Endocrinol.* 2011;3(1):41-9.
76. Pappas A, Johnsen S, Liu JC, Eisinger M. Sebum analysis of individuals with and without acne. *Dermato Endocrinol.* 2009; 1(3): 157-61.
77. Akaza N, Akamatsu H, Numata S, Matsusue M, Mashima Y, Miyawaki M, dkk. Fatty acid compositions of triglycerides and free fatty acids in sebum depend on amount of triglycerides, and do not differ in presence or absence of acne vulgaris. *J Dermatol.* 2014; 41: 1069–76.
78. Russel D. Gambar komedogenesis diunduh dari <https://healthplexus.net>
79. Ottaviani M, Alestas T, Flori E, Mastrofrancesco A, Zoubolis CC, Picardo M. Peroxidated squalene induces the production of inflammatory mediators in HaCaT keratinocytes: A possible role in acne vulgaris. *J Invest Dermatol.* 2006;126:2430-7.
80. Murillo N, Raoult D. Skin microbiota: overview and role in the skin diseases acne vulgaris and rosacea. *Future Microbiol.* 2013; 8(2): 209-22.
81. Rosenthal M, Goldberg D, Aiello A, Larson E, Foxman B. Skin microbiota: microbial community structure and its potential association with health and disease. *Infect Genet Evol.* 2011;11(5):839-48.
82. McBride ME, Duncan WC, Knox JM. The environment and the microbial ecology of human skin. *Appl Environ Microbiol.* 1977;33(3):603-8.
83. Kong HH. Microbiome of the skin. Dalam: Kang S, Amagai M, Bruckner AL, Enk AH., Margolis DJ, McMichael AJ, Orringer JS, penyunting. *Fitzpatrick's Dermatology Edisi ke-9.* New York: McGraw-Hill; 2019. hlm. 253-60.

84. Leeming JP, Holland KT, Cunliffe WJ. The microbial colonization of inflamed acne vulgaris lesions. *Br J Dermatol*. 1988; 118: 203-8.
85. Kang SH, Kim HU. The isolation of *Malassezia* yeasts in the comedones of acne vulgaris. *Korean J Med Mycol*. 1999;4: 33-39. [Abstrak]
86. Song YC, Hahn HJ, Kim JY, Ko JH, Lee YW, Choe YB, dan Ahn KJ. Epidemiologic Study of *Malassezia* Yeasts in Acne Patients by Analysis of 26S rDNA PCR-RFLP. *Annals Dermatol*. 2011; 23(3): 321.
87. Karoglan A, Paetzold B, Pereira De Lima J, Bruggemann H, Tuting T, Schanze D, dkk. Safety and efficacy of topically applied selected *Cutibacterium acnes* strains over five weeks in patients with acne vulgaris: an open label, pilot study. *Acta Derm Venereol*. 2019; 99: 1253-57.
88. Xu H, Li H. Acne, the skin microbiome, and antibiotic treatment. *Am J Clin Dermatol*. 2019. Melalui: <https://doi.org/10.1007/s40257-018-00417-3>
89. Dreno B, Pecastaings S, Corvec S, Veraldi S, Khammari A, Roques C. *Cutibacterium acnes* (*Propionibacterium acnes*) and acne vulgaris: a brief look at the latest updates. *J Eur Acad Dermatol Venereol*. 2018; 32(Suppl.2): 5–14.
90. Jappe U. Pathological Mechanism of acne with special emphasis on *Propionibacterium acnes* and related therapy. *Acta Derm Venereol*. 2003; 83: 241-48.
91. Shaheen B, Gonzalez M. Acne sans *P. acnes*. *J Eur Acad Dermatol Venereol*. 2013; 27(1): 1-10.
92. Nishijima S, Kurokawa I, Katoh N, Watanabe K. The bacteriology of acne vulgaris and antimicrobial susceptibility of *propionibacterium acnes* and *staphylococcus epidermidis* isolated from acne lesions. *J Dermatol*. 2000;27(5):318-23.
93. Kwon H, Yoon J, Park S, Suh D. Analysis of distribution patterns of *Propionibacterium acnes* phylotypes and *Peptostreptococcus* species from acne lesion. *Br J Dermatol*. 2013;169:1152-5.
94. Longshaw CM, Farrell AM, Wright JD, Holland KT. Identification of a second lipase gene, *geh D* in *Staphylococcus epidermidis*: comparison of sequence with those of other staphylococcal lipases. *Microbiol*. 2000; 146(6): 1419-27.



95. Paharik AE, Horswil AR. Staphylococcal biofilm: adhesins, regulation and host response. *Microbiol Spectr.* 2016; 4(2): 1-48.
96. Kuehnast T, Claksi F, Weinhawol T, Pilz A, Schmidt MA, dkk. Comparative analysis of biofilm formation among different *Cutibacterium acnes* isolates. *Int J Med Microbiol.* 2018; 308(8): 1027-35.
97. Fey PD, Olson ME. Current concepts in biofilm formation of *Staphylococcus epidermidis*. *Future Microbiol.* 2010;5(6): 917-33.
98. Topka-Bielecka G, Dydecka A, Necel A, Bloch S, Nejman-Faleńczyk B, Węgrzyn G, dkk. Bacteriophage-derived depolymerases against bacterial biofilm. *Antibiotics.* 2021;10(2):175.
99. Alexeyev O, Jahns A. Sampling and detection of skin *Propionibacterium acnes*: current status. *Anaerobe.* 2012;18(5):479-83.
100. Platsidaki E, Dessinioti C. Recent advances in understanding *Propionibacterium acnes* (*Cutibacterium acnes*) in acne. *F1000 Faculty Rev.* 2018. 1-12
101. Jamal M, Tasneem U, Hussain T, Andleeb S. Bacterial biofilm: Its composition, formation and role in human infections. *J Microbiol Biotechnol.* 2015;4(3):1-14.
102. Omer H, McDowell A, Alexeyev OA. Understanding the role of *Propionibacterium acnes* in acne vulgaris: The critical importance of skin sampling methodologies. *J Clin Dermatol.* 2016;1:1-44.
103. Farran CA EL, Sekar A, Balakrishnan A, Shanmugam S, Arumugam P, Gopalswamy JP. Prevalence of biofilm-producing *Staphylococcus epidermidis* in the healthy skin of individuals in Tamil Nadu, India. *Indian J Med Microbiol.* 2013; 31(1): 19-23
104. Hall JB, Cong Z, Imamura-Kawasawa Y, Kidd BA, Dudley JT, Thiboutot DM, Nelson AM. Isolation and identification of the follicular Microbiome: implications for acne research. *J Invest Dermatol.* 2018;138(9): 2033-40.
105. O'Neill AM, Gallo RL. Host microbiome interactions and recent progress into understanding the biology of acne vulgaris. *Microbiome.* 2018; 6(1):177

106. Piérard GE, Piérard-Franchimont C, Paquet P, Hermanns-Lê T, Jean Radermacher J, Delvenne P. Cyanoacrylate skin surface stripping and the 3S-Biokit advent in tropical dermatology: A Look from Liège. *Sci World J*. 2014. Melalui: <http://dx.doi.org/10.1155/2014/462634>
107. Naghdi N, Ghane M. A comparison of culture and PCR methods for identifying *Propionibacterium acnes* in lesion isolated from patient with acne. *Turk J Med Sci*. 2017; 47: 967-72.
108. Butler-Wu SM, Burns EM, Pottinger PS, Magaret AS, Rakeman JL, Matsen FA, dkk. Optimization of periprosthetic culture for diagnosis of *Propionibacterium acnes* in prosthetic joint infection. *J Clin Microbiol*. 2011; 07: 2490–95.
109. Kvich L, Jensen PO, Justesen US, Bjarnsholt T. Incidence of *Propionibacterium acnes* in initially culture-negative thioglycollate broths, a prospective cohort study at a danish unversity hospital. *Clin Microbiol Infect*. 2016; 22: 941-45.
110. Reynolds J. Identification of *Staphylococcus* species. Melalui: <https://status.libretexts.org/>
111. Cappuccino JG, Welsh CT. *Microbiology: a laboratory manual*. Edisi ke-11. 2017
112. Shetty N. The vitek analyser for routine bacterial identification and susceptibility testing protocols. *Microbiol*. 1998;51:316-23.
113. Stepanovic S, Vukovic D, Dakic I, Savic B, Svabic-Vlahovic M. A modified microtiter-plate test for quantification of staphylococcal biofilm formation. *J Microbiol Methods*. 2000; (40): 175–79.
114. Christensen GD, Simpson WA, Younger JJ, Baddour LM, Barrett FF, Melton DM, dkk. Adherence of coagulase-negative staphylococci to plastic tissue culture plates: a quantitative model for the adherence of staphylococci to medical devices. *J Clin Microbiol*. 1985; 22: 996–1006.
115. Lanka S, Latha JNL. A short review on various screening methods to isolate potential lipase producers: Lipases-the present and future enzymes of biotech industry. *Int J Biol Chem*. 2015;9 (5): 207-19.
116. Palafox JC, Rivera-Chavira BE, Ramirez-Baca N, Papayanopoulos-Manzanares LI, Moorillon-Nevarez GV. Improved method for qualitative screening of lipolytic bacterial strain. *Methodsx*. 2018; 5: 68-74.

117. Folch J, Lees M, Stanley S. A simple method for the isolation and purification of total lipides from animal tissues. *J Biol Chem.* 1957; 226: 497-509.
118. Hulley SB, Cummings SR, Browner WS, Grady DG. *Designing clinical research.* Edisi ke-4. Philadelphia: Lippincot-Williams. 2013
119. Kline RB, Kenny DA, Little TD, penyunting. *Principles and practice of structural equation modeling.* Edisi ke-4. New York: The Guilford Press; 2016.
120. Bansal P, Sardana K, Sharma L, Garga UC, Vats G. A prospective study examining isolated acne and acne with hyperandrogenic signs in adult females. *J Dermatolog Treat.* 2020;32(7):752-55.
121. Di Landro A, Cazzaniga S, Cusano F, Bonci A, Carla C, Musumeci ML, dkk. Adult female acne and associated risk factors: Results of a multicenter case control study in Italy. *J Am Acad Dermatol.* 2016;75(6):1134-41.
122. Perkins AC, Maglione J, Hillebrand GG, Miyamoto K, Kimball AB. Acne vulgaris in women: Prevalence across the life span. *J Womens Health.* 2012;21(2):223-30.
123. Kilkenny M, Merlin K, Plunkett, Marks R. The prevalence of common skin conditions in Australian school students: 3. acne vulgaris. *Br J Dermatol* 1998; 139: 840–45.
124. Ruchiatan K, Rahardja JI, Rezano A, Hindritiani R, Sutedja E, Gunawan H. A five-year clinical acne patients profiles and its management based on Indonesian acne expert guideline in Bandung, Indonesia. *J Pak Assoc Dermatol.* 2020; 30(2): 229-34.
125. Skroza N, Tolino E, Mambrin A, Zuber S, Balduzzi V, Marchesiello A, dkk. Adult acne versus adolescent acne: A retrospective study of 1,167 patients. *The J Clin Aesthet Dermatol.* 2018;11(1):21.
126. Utami OC, Kurniawati Y, Diba S, Saleh MI. Correlation between serum lipid profile and acne vulgaris severity. *J Phys Conf Ser.* 2019; DOI 10.1088/17426596/1246/1/012066.
127. Higaki S, Kitagawa T, Kagoura M, Morohashi M, Yamagishi T. Correlation between *Propionibacterium acnes* biotypes, lipase activity and rash degree in acne patients. *J Dermatol.* 2000;27: 519-22.
128. Higaki S. Lipase inhibitors for the treatment of acne. *J Mol Catal B Enzym.* 2003; 22: 377-84.

129. Josse G, Mias C, Digabel JL, Filiol J, Ipinazar C, Villaret A, dkk. High bacterial colonization and lipase activity in microcomedones. *Exp Dermatol*. 2020; 29: 168-76.
130. Fourniere M, Latire T, Souak D, Feuilloley MGJ, Bedoux G. *Staphylococcus epidermidis* and *Cutibacterium acnes*: Two Major Sentinels of Skin Microbiota and the Influence of Cosmetics. *Microorganisms*. 2020; 8 : 1-32.
131. Martínez-García S, Ortega-Peña S, De Haro-Cruz MDJ, Aguilera-Arreola MG, Alcántar-Curiel MD, Betanzos-Cabrera G. Non-biofilm-forming commensal *Staphylococcus epidermidis* isolates produce biofilm in the presence of trypsin. *Microbiology Open*. 2019; 00:e.906.
132. Petersson F, Kilsgård O, Shannon O, Lood R. Platelet activation and aggregation by the opportunistic pathogen cutibacterium (propionibacterium) acnes. *PLoS One*. 2018;13(1):e0192051.
133. Grange PA, Raingeaud J, Morelle W, Marcelin A-G, Calvez V, Dupin N. Characterization of a propionibacterium acnes surface protein as a fibrinogen- binding protein. *Sci Rep*. 2017;7(1):1-14.
134. Gajdács M, Baráth Z, Kárpáti K, Szabó D, Usai D, Zanetti S, dkk. No correlation between biofilm formation, virulence factors, and antibiotic resistance in pseudomonas aeruginosa: Results from a laboratory-based in vitro study. *Antibiotics*. 2021;10(9):1134.
135. Gannesen AV, Lesouhaitier O, Racine PJ, Barreau M, Netrusov AI, Plakunov VK, dkk. Regulation of monospecies and mixed biofilms formation of skin *Staphylococcus aureus* and *Cutibacterium acnes* by human natriuretic peptides. *Front Microbiol*. 2018;9: 2912.
136. Kim HJ, Lee BJ, Kwon AR. The grease trap: uncovering the mechanism of the hydrophobic lid in *Cutibacterium acnes* lipase. *Lipid Res*. 2020;61(5):722-33.
137. Xia X, Li Z, Liu K, Wu Y, Jiang D, Lai Y. Staphylococcal LTA-induced miR-143 inhibits *Propionibacterium acnes*-mediated inflammatory response in skin. *J Invest Dermatol*. 2016; 136: 559e560.
138. Dagnelie MA, Corvec S, David ET, Khammari A. *Cutibacterium acnes* and *Staphylococcus epidermidis*: the unmissable modulators of skin inflammatory respons. *Exp Dermatol*. 2022; 31: 406-12.