

DAFTAR PUSTAKA

- Abdualrasool, M., Al-Shanfari, S., Boosalayan, H., Boujarwa, A., Al-Mukaimi, A., Alkandery, O., et al., 2018. Exposure to environmental tobacco smoke and prevalence of atopic dermatitis among adolescents in Kuwait. *Dermatology* 234: 205–213.
- Addo-Yobo, E.O.D., Woodcock, A., Allotey, A., Baffoe-Bonnie, B., Strachan, D., & Custovic, A., 2007. Exercise-induced bronchospasm and atopy in Ghana: Two surveys ten years apart. *PLoS Med.* 4: 0355–0360.
- Ahn, K., 2014. The role of air pollutants in atopic dermatitis. *J. Allergy Clin. Immunol.* 134: 993–999.
- Aichbhaumik, N., Zoratti, E.M., Strickler, R., Wegienka, G., Ownby, D.R., Havstad, S., et al., 2008. Prenatal exposure to household pets influences fetal immunoglobulin e production. *Clin. Exp. Allergy* 38: 1787–1794.
- Alshatti, K.A., & Ziyab, A.H., 2020. Pet-Keeping in Relation to Asthma, Rhinitis, and Eczema Symptoms Among Adolescents in Kuwait: A Cross-Sectional Study 8: 1–10.
- Anyo, G., Brunekreef, B., De Meer, G., Aarts, F., Janssen, N.A.H., & Van Vliet, P., 2002. Early, current and past pet ownership: Associations with sensitization, bronchial responsiveness and allergic symptoms in school children. *Clin. Exp. Allergy* 32: 361–366.
- Arbes, S.J., Cohn, R.D., Yin, M., Muilenberg, M.L., Friedman, W., & Zeldin, D.C., 2004. Dog allergen (Can f 1) and cat allergen (Fel d 1) in US homes: Results from the National Survey of Lead and Allergens in Housing. *J. Allergy Clin. Immunol.* 114: 111–117.
- Arlan, L.G., & Platts-mills, T.A.E., 2001. The biology of dust mites and the remediation of mite allergens in allergic disease 406–413.
- Arshad, S.H., Tariq, S.M., Matthews, S., & Hakim, E., 2001. Sensitization to common allergens and its association with allergic disorders at age 4 years: a whole population birth cohort study. *Pediatrics* 108.
- Asher, M.I., Keil, U., Anderson, H.R., Beasley, R., Crane, J., Martinez, F., et al., 1995. International study of asthma and allergies in childhood (ISAAC): Rationale and methods. *Eur. Respir. J.* 8: 483–491.
- Asher, M.I., Stewart, A.W., Mallol, J., Montefort, S., Lai, C.K.W., & Ait-khaled, N., 2010. Which population level environmental factors are associated with asthma, rhinoconjunctivitis and eczema? Review of the ecological analyses of ISAAC Phase One 1–10.
- Barton, G.M., & Medzhitov, R., 2002. Control of adaptive immune responses by Toll-like receptors. *Curr. Opin. Immunol.* 14: 380–383.
- Bedolla-Barajas, M., Morales-Romero, J., Bedolla-Pulido, T.I., Bedolla-Pulido, T.R., Meza-López, C., & Pulido-Guillén, N.A., 2018. Exposure to dogs but not cats is associated to a decrease in the prevalence in atopic dermatitis amongst school-children. *Allergol. Immunopathol. (Madr)*. 46: 431–437.
- Bisgaard, H., Simpson, A., Palmer, C.N.A., Bønnelykke, K., Mclean, I., Mukhopadhyay, S., et al., 2008a. Gene-environment interaction in the onset of eczema in infancy: Filaggrin loss-of-function mutations enhanced by neonatal

- cat exposure. *PLoS Med.* 5: 0934–0940.
- Bisgaard, H., Simpson, A., Palmer, C.N.A., Bønnelykke, K., Mclean, I., Mukhopadhyay, S., et al., 2008b. Gene-environment interaction in the onset of eczema in infancy: Filaggrin loss-of-function mutations enhanced by neonatal cat exposure. *PLoS Med.* 5: 0934–0940.
- Bonamonte, D., Filoni, A., Vestita, M., Romita, P., Foti, C., & Angelini, G., 2019. The Role of the Environmental Risk Factors in the Pathogenesis and Clinical Outcome of Atopic Dermatitis. *Biomed Res. Int.* 2019.
- Bornehag, C.G., Sundell, J., Hagerhed, L., & Janson, S., 2003. Pet-keeping in early childhood and airway, nose and skin symptoms later in life. *Allergy Eur. J. Allergy Clin. Immunol.* 58: 939–944.
- Brenninkmeijer, E.E.A., Schram, M.E., Leeftang, M.M.G., Bos, J.D., & Spuls, P.I., 2008. Diagnostic criteria for atopic dermatitis: a systematic review. *Br. J. Dermatol.* 158(4): 754–765.
- Brown, S.J., & McLean, W.H.I., 2012. One remarkable molecule: Filaggrin. *J. Invest. Dermatol.* 132: 751–762.
- Bufford, J.D., Reardon, C.L., Li, Z., Roberg, K.A., DaSilva, D., Eggleston, P.A., et al., 2008. Effects of dog ownership in early childhood on immune development and atopic diseases. *Clin. Exp. Allergy* 38: 1635–1643.
- Bylund, S., Von Kobyletzki, L.B., Svalstedt, M., & Svensson, Å., 2020. Prevalence and incidence of atopic dermatitis: A systematic review. *Acta Derm. Venereol.* 100: 320–329.
- Chan, Y.-C., Tay, Y.-K., Sugito, T.-L., Boediardja, S.A., Chau, D.-D., Nguyen, K.-V., et al., 2006. A study on the knowledge, attitudes and practices of Southeast Asian dermatologists in the management of atopic dermatitis. *Ann. Acad. Med. Singapore* 35: 794–803.
- Chiesa Fuxench, Z.C., 2017. Atopic Dermatitis: Disease Background and Risk Factors. *Adv. Exp. Med. Biol.* 1027: 11–19.
- Cork, M.J., Robinson, D.A., Vasilopoulos, Y., Ferguson, A., Moustafa, M., MacGowan, A., et al., 2006. New perspectives on epidermal barrier dysfunction in atopic dermatitis: Gene-environment interactions. *J. Allergy Clin. Immunol.* 118: 3–21.
- Custovic, A., Fletcher, A., Pickering, C.A.C., Francis, H.C., Green, R., Smith, A., et al., 1998. Domestic allergens in public places III: House dust mite, cat, dog and cockroach allergens in British hospitals. *Clin. Exp. Allergy* 28: 53–59.
- Custovic, Adnan, Simpson, A., Pahdi, H., Green, R.M., Chapman, M.D., & Woodcock, A., 1998. Distribution, aerodynamic characteristics, and removal of the major cat allergen Fel d 1 in British homes. *Thorax* 53: 33–38.
- Dahlan, M.S., 2013. Besar Sampel dan Cara Pengambilan Sampel, 3rd ed. Salemba Medika, Jakarta.
- Dewi, F.S.T., Choiriyyah, I., Indriyani, C., Wahab, A., Lazuardi, L., Nugroho, A., et al., 2018. Designing and collecting data for a longitudinal study: the Sleman Health and Demographic Surveillance System (HDSS). *Scand. J. Public Health* 46: 704–710.
- Dharmage, S.C., Lodge, C.J., Lowe, A.J., & Allen, K.J., 2015. Antibiotics and risk of asthma: A debate that is set to continue. *Clin. Exp. Allergy* 45: 6–8.

- Díaz-Perales, A., González-de-Olano, D., Pérez-Gordo, M., & Pastor-Vargas, C., 2013. Allergy to uncommon pets: New allergies but the same allergens. *Front. Immunol.* 4: 3–8.
- Dom, S., Droste, J.H.J., Sariachvili, M.A., Hagendorens, M.M., Oostveen, E., Bridts, C.H., et al., 2010. Pre- and post-natal exposure to antibiotics and the development of eczema, recurrent wheezing and atopic sensitization in children up to the age of 4 years. *Clin. Exp. Allergy* 40: 1378–1387.
- Duramad, P., Harley, K., Lipsett, M., Bradman, A., Eskenazi, B., Holland, N.T., et al., 2006. Early environmental exposures and intracellular Th1/Th2 cytokine profiles in 24-month-old children living in an agricultural area. *Environ. Health Perspect.* 114: 1916–1922.
- Edwards, K., Braun, K.M., Evans, G., Sureka, A., & Fan, S., 1999. Mainstream and sidestream cigarette smoke condensates suppress macrophage responsiveness to interferony. *Hum Exp Toxicol.* 233–240.
- Eichenfield, L.F., Tom, W.L., Chamlin, S.L., Feldman, S.R., Hanifin, J.M., Simpson, E.L., et al., 2014. Guidelines of care for the management of atopic dermatitis: Section 1. Diagnosis and assessment of atopic dermatitis Work Group. *J. Am. Acad. Dermatol.* 70: 338–351.
- Elias, P.M., & Steinhoff, M., 2008. “Outside-to-inside” (and now back to “outside”) pathogenic mechanisms in atopic dermatitis. *J. Invest. Dermatol.* 128: 1067–1070.
- Ellwood, P., Asher, M., Beasley, R., Clayton, T., & Stewart, A., 2000. Phase Three Manual ISAAC [WWW Document]. URL <http://isaac.auckland.ac.nz/phases/phasethree/phasethreemanual>
- Esparza-Gordillo, J., Matanovic, A., Marenholz, I., Bauerfeind, A., Rohde, K., Nemat, K., et al., 2015. Maternal Filaggrin Mutations Increase the Risk of Atopic Dermatitis in Children: An Effect Independent of Mutation Inheritance. *PLoS Genet.* 11: 1–16.
- Fiset, P.O., Leung, D.Y.M., & Hamid, Q., 2006. Immunopathology of atopic dermatitis. *J. Allergy Clin. Immunol.* 118: 287–290.
- Flohr, C., & Mann, J., 2014. New approaches to the prevention of childhood atopic dermatitis. *Allergy Eur. J. Allergy Clin. Immunol.* 69: 56–61.
- Flohr, C., & Yeo, L., 2011. Atopic dermatitis and the hygiene hypothesis revisited. *Curr. Probl. Dermatol.* 41: 1–34.
- Fox, R., 2006. Animal behaviours, post-human lives: Everyday negotiations of the animal-human divide in pet-keeping. *Soc. Cult. Geogr.* 7: 525–537.
- Gereda, J.E., Leung, D.Y.M., Thatayatikom, A., Streib, J.E., Price, M.R., Klennert, M.D., et al., 2000. Relation between house-dust endotoxin exposure, type 1 T-cell development, and allergen sensitisation in infants at high risk of asthma. *Lancet* 355: 1680–1683.
- Gold, D.R., Burge, H.A., Carey, V., Milton, D.K., Platts-Mills, T., & Weiss, S.T., 1999. Predictors of repeated wheeze in the first year of life: The relative roles of cockroach, birth weight, acute lower respiratory illness, and maternal smoking. *Am. J. Respir. Crit. Care Med.* 160: 227–236.
- Hanifin, J.M., & Rajka, G., 1980. Diagnostic features of AD. *Acta Dermatovener Suppl* 92: 44–47.

- Herre, J., Grönlund, H., Brooks, H., Hopkins, L., Waggoner, L., Murton, B., et al., 2013. Allergens as Immunomodulatory Proteins: The Cat Dander Protein Fel d 1 Enhances TLR Activation by Lipid Ligands. *J. Immunol.* 191: 1529–1535.
- Ho, C.L., Chang, L.I., & Wu, W.F., 2019. The prevalence and risk factors of atopic dermatitis in 6–8 year-old first graders in Taipei. *Pediatr. Neonatol.* 60: 166–171.
- Howell, M.D., Kim, B.E., Gao, P., Grant, A. V., Boguniewicz, M., DeBenedetto, A., et al., 2009. Cytokine modulation of atopic dermatitis filaggrin skin expression. *J. Allergy Clin. Immunol.* 124: 7–12.
- <https://hdss.fk.ugm.ac.id/>, 2021. HDSS Sleman [WWW Document]. URL <https://hdss.fk.ugm.ac.id> (diakses 7.6.21).
- Irvine, A.D., McLean, W.H.I., & Leung, D.Y.M., 2011. Filaggrin Mutations Associated with Skin and Allergic Diseases. *N. Engl. J. Med.* 365: 1315–1327.
- Johnson, C.C., Ownby, D.R., Alford, H., Havstad, S.L., Williams, L.K., Zoratti, E.M., et al., 1989. Antibiotic exposure in early infancy and risk for childhood atopy. *J Allergy Clin Immunol.* 1218–1224.
- Julia, V., Macia, L., & Dombrowicz, D., 2015. The impact of diet on asthma and allergic diseases. *Nat. Rev. Immunol.* 15: 308–322.
- Jungersted, J.M., Scheer, H., Mempel, M., Baurecht, H., Cifuentes, L., Høgh, J.K., et al., 2010. Stratum corneum lipids, skin barrier function and filaggrin mutations in patients with atopic eczema. *Allergy Eur. J. Allergy Clin. Immunol.* 65: 911–918.
- Kabashima, K., Otsuka, A., & Nomura, T., 2017. Linking air pollution to atopic dermatitis. *Nat. Immunol.* 18: 5–6.
- Kadariya, S., Gautam, R., & Aro, A.R., 2019. Physical Activity, Mental Health, and Wellbeing among Older Adults in South and Southeast Asia: A Scoping Review. *Biomed Res. Int.* 2019.
- Kantor, R., Kim, A., Thyssen, J., Jonathan, I., & Multidisciplinary, M., 2017. Association of atopic dermatitis with smoking: A systematic review and meta-analysis. *J Am Acad Dermatol.* 75: 1119–1125.
- Kantor, R., & Silverberg, J.I., 2017. Environmental risk factors and their role in the management of atopic dermatitis. *Expert Rev. Clin. Immunol.* 13: 15–26.
- Kaufman, B.P., Guttman-Yassky, E., & Alexis, A.F., 2018. Atopic dermatitis in diverse racial and ethnic groups-Variations in epidemiology, genetics, clinical presentation and treatment. *Exp. Dermatol.* 27: 340–357.
- KBBI, 2008. Arti kata enumerator [WWW Document]. URL <https://kbbi.web.id/enumerator>
- Kim, J.H., 2017. Role of breast-feeding in the development of atopic dermatitis in early childhood. *Allergy, Asthma Immunol. Res.* 9: 285–287.
- Kim, S.Y., Sim, S., & Choi, H.G., 2017. Atopic dermatitis is associated with active and passive cigarette smoking in adolescents. *PLoS One* 12: 1–11.
- Klug, C., Hemmer, W., Román-Carrasco, P., Focke-Tejkl, M., Quirce, S., Boyano-Martínez, T., et al., 2020. Gal d 7—a major allergen in primary chicken meat allergy. *J. Allergy Clin. Immunol.* 146: 169–179.e5.
- Koh, B.H., Hwang, S.S., Kim, J.Y., Lee, W., Kang, M.J., Lee, C.G., et al., 2010. Th2 LCR is essential for regulation of Th2 cytokine genes and for

- pathogenesis of allergic asthma. *Proc. Natl. Acad. Sci. U. S. A.* 107: 10614–10619.
- Kong, H.H., Oh, J., Deming, C., Conlan, S., Grice, E.A., Beatson, M.A., et al., 2012. Temporal shifts in the skin microbiome associated with disease flares and treatment in children with atopic dermatitis. *Genome Res.* 22: 850–859.
- Kramer, O.N., Strom, M.A., Ladizinski, B., & Lio, P.A., 2017. The history of atopic dermatitis. *Clin. Dermatol.* 35: 344–348.
- Kull, I., Böhme, M., Wahlgren, C.F., Nordvall, L., Pershagen, G., & Wickman, M., 2005. Breast-feeding reduces the risk for childhood eczema. *J. Allergy Clin. Immunol.* 116: 657–661.
- Kuo, C.H., Kuo, H.F., Huang, C.H., Yang, S.N., Lee, M.S., & Hung, C.H., 2013. Early life exposure to antibiotics and the risk of childhood allergic diseases: An update from the perspective of the hygiene hypothesis. *J. Microbiol. Immunol. Infect.* 46: 320–329.
- Kypriotou, M., Huber, M., & Hohl, D., 2012. The human epidermal differentiation complex: Cornified envelope precursors, S100 proteins and the “fused genes” family. *Exp. Dermatol.* 21: 643–649.
- Langan, S., Irvine, A., & Weidinger, S., 2020. Atopic dermatitis. *Lancet* 396: 345–360.
- Langan, S.M., Flohr, C., & Williams, H.C., 2007. The role of furry pets in eczema: A systematic review. *Arch. Dermatol.* 143: 1570–1577.
- Lappalainen, M.H.J., Roponen, M., Hyvärinen, A., Nevalainen, A., Laine, O., Pekkanen, J., et al., 2008. Exposure to environmental bacteria may have differing effects on tumour necrosis factor- α and interleukin-6-producing capacity in infancy. *Clin. Exp. Allergy* 38: 1483–1492.
- Ledford, D.K., 1994. Indoor allergens. *J. Allergy Clin. Immunol.* 94: 327–334.
- Lee, S.C., 2016. Various diagnostic criteria for atopic dermatitis (AD): A proposal of Reliable Estimation of Atopic Dermatitis in Childhood (REACH) criteria, a novel questionnaire-based diagnostic tool for AD. *J. Dermatol.* 43: 376–384.
- Leitenberger, S., Hajar, T., Simpson, E.L., von Kobyletzki, L., & Hanifin, J.M., 2017. Validation of a Parent-Reported Diagnostic Instrument in a U.S. Referral Population: The Childhood Eczema Questionnaire. *Pediatr. Dermatol.* 34: 398–401.
- Leung, D.Y.M., & Guttman-Yassky, E., 2014. Deciphering the Complexities of Atopic Dermatitis: Shifting Paradigms in Treatment Approaches. *J Allergy Clin Immunol* 134: 769–779.
- Leung, D.Y.M., & Soter, N.A., 2001. Cellular and immunologic mechanisms in atopic dermatitis. *J. Am. Acad. Dermatol.* 44: S1.
- Ley, R.E., Hamady, M., Lozupone, C., Turnbaugh, P., Roy, R., Bircher, J.S., et al., 2008. Evolution of mammals and their gut microbes. *Science* (80-.). 20: 1647–1651.
- Li, C., Chen, Q., Zhang, X., Li, H., Liu, Q., Fei, P., et al., 2020. Early Life Domestic Pet Ownership, and the Risk of Pet Sensitization and Atopic Dermatitis in Preschool Children: A Prospective Birth Cohort in Shanghai. *Front. Pediatr.* 8: 1–8.
- Linneberg, A., Nielsen, N.H., Madsen, F., Frølund, L., Dirksen, A., & Jørgensen,

- T., 2001. Smoking and the development of allergic sensitization to aeroallergens in adults: A prospective population-based study. The Copenhagen Allergy Study. *Allergy Eur. J. Allergy Clin. Immunol.* 56: 328–332.
- Mallol, J., Crane, J., von Mutius, E., Odhiambo, J., Keil, U., & Stewart, A., 2013. The International Study of Asthma and Allergies in Childhood (ISAAC) Phase Three: A global synthesis. *Allergol. Immunopathol. (Madr)*. 41: 73–85.
- Marenholz, I., Esparza-Gordillo, J., Rüschenhoff, F., Bauerfeind, A., Strachan, D.P., Spycher, B.D., et al., 2015. Meta-analysis identifies seven susceptibility loci involved in the atopic March. *Nat. Commun.* 6.
- Martin, M.J., Estravís, M., García-Sánchez, A., Dávila, I., Isidoro-García, M., & Sanz, C., 2020. Genetics and epigenetics of atopic dermatitis: An updated systematic review. *Genes (Basel)*. 11.
- Matricardi, P.M., & Bonini, S., 2000. High microbial turnover rate preventing atopy: A solution to inconsistencies impinging on the Hygiene hypothesis? *Clin. Exp. Allergy* 30: 1506–1510.
- McKeever, T.M., Lewis, S.A., Smith, C., Collins, J., Heatlie, H., Frischer, M., et al., 2002. Early exposure to infections and antibiotics and the incidence of allergic disease: A birth cohort study with the West Midlands General Practice Research Database. *J Allergy Clin Immunol* 43–50.
- McLean, W.H.I., 2016. Filaggrin failure – from ichthyosis vulgaris to atopic eczema and beyond. *Br. J. Dermatol.* 175: 4–7.
- McNicholas, J., Gilbey, A., Rennie, A., Ahmedzai, S., Dono, J.A., & Ormerod, E., 2005. Pet ownership and human health: A brief review of evidence and issues. *Br. Med. J.* 331: 1252–1254.
- Mei-Yen Yong, A., & Tay, Y.K., 2017. Atopic Dermatitis: Racial and Ethnic Differences. *Dermatol. Clin.* 35: 395–402.
- Mendy, A., Wilkerson, J., Salo, P.M., Cohn, R.D., Zeldin, D.C., & Thorne, P.S., 2018. Exposure and Sensitization to Pets Modify Endotoxin Association with Asthma and Wheeze. *J. Allergy Clin. Immunol. Pract.* 6: 2006-2013.e4.
- Murata, Y., Ogata, J., & Higaki, Y., 1996. Abnormal Expression Of Sphingomyelin Acylase in Atopic Dermatitis: An Etiologic Factor for Ceramide Deficiency? *J. Invest. Dermatol.* Vol 106.
- Ng, Y.T., & Chew, F.T., 2020. A systematic review and meta-analysis of risk factors associated with atopic dermatitis in Asia. *World Allergy Organ. J.* 13: 100477.
- Niwa, Y., Sumi, H., Kawahira, K., Terashima, T., Nakamura, T., & Akamatsu, H., 2003. Protein oxidative damage in the stratum corneum: Evidence for a link between environmental oxidants and the changing prevalence and nature of atopic dermatitis in Japan. *Br. J. Dermatol.* 149: 248–254.
- Nomura, T., Sandilands, A., Akiyama, M., Liao, H., Evans, A.T., Sakai, K., et al., 2007. Unique mutations in the filaggrin gene in Japanese patients with ichthyosis vulgaris and atopic dermatitis. *J. Allergy Clin. Immunol.* 119: 434–440.
- Nutten, S., 2015. Atopic dermatitis: Global epidemiology and risk factors. *Ann. Nutr. Metab.* 66: 8–16.

- Oddy, W.H., 2009. The long-term effects of breast-feeding on asthma and atopic disease. *Adv. Exp. Med. Biol.* 639: 237–251.
- Ong, Peck Y, Ohtake, T., & Brandt, C., 2002. Endogenous Antimicrobial Peptides And Skin Infections in Atopic Dermatitis. *N Engl J Med* 347: 1151–1160.
- Ong, Peck Y., Ohtake, T., Brandt, C., Strickland, I., Boguniewicz, M., Ganz, T., et al., 2002. Endogenous Antimicrobial Peptides and Skin Infections in Atopic Dermatitis. *N. Engl. J. Med.* 347: 1151–1160.
- Ownby, D., & Johnson, C.C., 2016. Recent Understandings of Pet Allergies. *F1000Research* 5: 1–9.
- Ownby, D.R., Johnson, C.C., & Peterson, E.L., 2002. Exposure to dogs and cats in the first year of life and risk of allergic sensitization at 6 to 7 years of age. *J. Am. Med. Assoc.* 288: 963–972.
- Palmer, C.N.A., Irvine, A.D., Terron-Kwiatkowski, A., Zhao, Y., Liao, H., Lee, S.P., et al., 2006. Common loss-of-function variants of the epidermal barrier protein filaggrin are a major predisposing factor for atopic dermatitis. *Nat. Genet.* 38: 441–446.
- Parslow, R.A., & Jorm, A.F., 2003. Pet ownership and risk factors for cardiovascular disease: Another look. *Med. J. Aust.* 179: 466–468.
- Paternoster, L., Standl, M., Waage, J., Baurecht, H., Hotze, M., Strachan, D.P., et al., 2015. Multi-ancestry genome-wide association study of 21,000 cases and 95,000 controls identifies new risk loci for atopic dermatitis. *Nat. Genet.* 47: 1449–1456.
- Pearce, N., Ait-Khaled, N., Beasley, R., Mallol, J., Keil, U., Mitchell, E.A., et al., 2007. Worldwide trends in the prevalence of asthma symptoms: Phase III of the International Study of Asthma and Allergies in Childhood (ISAAC). *Thorax* 62: 757–765.
- Pelucchi, C., Galeone, C., Bach, J.F., La Vecchia, C., & Chatenoud, L., 2013. Pet exposure and risk of atopic dermatitis at the pediatric age: A meta-analysis of birth cohort studies. *J. Allergy Clin. Immunol.* 132.
- Perrin, T., 2009. The Business of Urban Animals Survey: The facts and statistics on companion animals in Canada. *Can. Vet. J.* 50: 48–52.
- Platts-mills, T., Vaughan, J., Squillace, S., & Woodfolk, J., 2001. Sensitisation, asthma, and a modified Th2 response in children exposed to cat allergen: a population-based cross sectional study. *Lancet* 357: 752–756.
- Prescott, S.L., Macaubas, C., Smallacombe, T., Holt, B.J., Sly, P.D., & Holt, P.G., 1999. Development of allergen-specific T-cell memory in atopic and normal children. *Lancet* 353: 196–200.
- Roponen, M., Hyvärinen, A., Hirvonen, M.R., Keski-Nisula, L., & Pekkanen, J., 2005. Change in IFN- γ -producing capacity in early life and exposure to environmental microbes. *J. Allergy Clin. Immunol.* 116: 1048–1052.
- Russell, S.L., Gold, M.J., Willing, B.P., Thorson, L., McNagny, K.M., & Finlay, B.B., 2013. Perinatal antibiotic treatment affects murine microbiota, immune responses and allergic asthma. *Gut Microbes* 4: 158–164.
- Schäfer, T., Stieger, B., Polzius, R., & Krauspe, A., 2009. Associations between cat keeping, allergen exposure, allergic sensitization and atopic diseases: Results from the Children of Lübeck Allergy and Environment Study (KLAUS).

- Pediatr. Allergy Immunol.* 20: 353–357.
- Schuttelaar, M.L.A., Kerkhof, M., Jonkman, M.F., Koppelman, G.H., Brunekreef, B., De Jongste, J.C., et al., 2009. Filaggrin mutations in the onset of eczema, sensitization, asthma, hay fever and the interaction with cat exposure. *Allergy Eur. J. Allergy Clin. Immunol.* 64: 1758–1765.
- Scudellari, M., 2017. Cleaning up the hygiene hypothesis. *Proc. Natl. Acad. Sci. U. S. A.* 114: 1433–1436.
- Seidenari, S., & Giusti, G., 1995. Objective Assessment of the Skin of Children Affected by Atopic Dermatitis: A Study of pH, Capacitance dan TEWL in Eczematous and Clinically Uninvolved Skin. *Acta Dermatovener* 429–433.
- Shaw, T.E., Currie, G.P., Koudelka, C.W., & Simpson, E.L., 2011. Eczema prevalence in the United States: Data from the 2003 national survey of children's health. *J. Invest. Dermatol.* 131: 67–73.
- Silverberg, J.I., Barbarot, S., Gadkari, A., Simpson, E.L., Weidinger, S., Mina-Osorio, P., et al., 2021. Atopic dermatitis in the pediatric population: A cross-sectional, international epidemiologic study. *Ann. Allergy, Asthma Immunol.* 126: 417-428.e2.
- Simpson, A., 2010. Effect of household pet ownership on infant immune response and subsequent sensitization. *J. Asthma Allergy* 3: 131–137.
- Simpson, A., & Custovic, A., 2005. Pets and the development of allergic sensitization. *Curr. Allergy Asthma Rep.* 5: 212–220.
- Simpson, E., Leung, D.Y., Eichenfield, L., & Boguniewick, M., 2019. Atopic Dermatitis, in: kang, S. (Ed.), Fitzpatrick 's Dermatology 9th Edition. Mc Graw Hill, New York, hal. 363–381.
- Singh, S., & Sharma, B.B., 2018. Allergic rhinitis, rhinoconjunctivitis and eczema: Prevalence and associated factors in children. *Clin Res J* 12(2):547–556.
- Spergel, J.M., 2010. From atopic dermatitis to asthma: The atopic march. *Ann. Allergy, Asthma Immunol.* 105: 99–106.
- Sticozzi, C., Belmonte, G., Pecorelli, A., Arezzini, B., Gardi, C., Maioli, E., et al., 2012. Cigarette smoke affects keratinocytes SRB1 expression and localization via H2O2 production and HNE protein adducts formation. *PLoS One* 7: 1–14.
- Strachan, D.P., 2000. Family site, infection and atopy: The first decade of the “hygiene hypothesis.” *Thorax* 55: 2–11. doi:10.1136/thorax.55.suppl_1.s2
- Sun, L.D., Xiao, F.L., Li, Y., Zhou, W.M., Tang, H.Y., Tang, X.F., et al., 2011. Genome-wide association study identifies two new susceptibility loci for atopic dermatitis in the Chinese Han population. *Nat. Genet.* 43: 690–694.
- Thawer-Esmail, F., Jakasa, I., Todd, G., Wen, Y., Brown, S.J., Kroboth, K., et al., 2014. South African amaXhosa patients with atopic dermatitis have decreased levels of filaggrin breakdown products but no loss-of-function mutations in filaggrin. *J. Allergy Clin. Immunol.* 133.
- Thomsen, S.F., 2014. Atopic Dermatitis: Natural History, Diagnosis, and Treatment. *ISRN Allergy* 2014: 1–7.
- Thomsen, S.F., Ulrik, C.S., Kyvik, K.O., Hjelmberg, J.V.B., Skadhauge, L.R., Steffensen, I., et al., 2007. Importance of genetic factors in the etiology of atopic dermatitis: A twin study. *Allergy Asthma Proc.* 28: 535–539.
- Thorsteinsdottir, S., Thyssen, J.P., Stokholm, J., Vissing, N.H., Waage, J., &

- Bisgaard, H., 2016. Domestic dog exposure at birth reduces the incidence of atopic dermatitis. *Allergy Eur. J. Allergy Clin. Immunol.* 71: 1736–1744.
- Thyssen, J.P., & Kezic, S., 2014. Causes of epidermal filaggrin reduction and their role in the pathogenesis of atopic dermatitis. *J. Allergy Clin. Immunol.* 134: 792–799.
- Toohey, A.M., Hewson, J.A., Adams, C.L., & Rock, M.J., 2018. Pets, Social Participation, and Aging-in-Place: Findings from the Canadian Longitudinal Study on Aging. *Can. J. Aging* 37: 200–217.
- Totté, J.E.E., van der Feltz, W.T., Hennekam, M., van Belkum, A., van Zuuren, E.J., & Pasmans, S.G.M.A., 2016. Prevalence and odds of *Staphylococcus aureus* carriage in atopic dermatitis: a systematic review and meta-analysis. *Br. J. Dermatol.* 175: 687–695.
- Vandenplas, Y., Abuabat, A., Al-Hammadi, S., Aly, G.S., Miqdady, M.S., Shaaban, S.Y., et al., 2014. Middle east consensus statement on the prevention, diagnosis, and management of cow's milk protein allergy. *Pediatr. Gastroenterol. Hepatol. Nutr.* 17: 61–73.
- Von Kobyletzki, L.B., Berner, A., Carlstedt, F., Hasselgren, M., Bornehag, C.G., & Svensson, A., 2013. Validation of a parental questionnaire to identify atopic dermatitis in a population-based sample of children up to 2 years of age. *Dermatology* 226: 222–226.
- Von Kobyletzki, L.B., Bornehag, C.G., Hasselgren, M., Larsson, M., Lindström, C.B., & Svensson, Å., 2012a. Eczema in early childhood is strongly associated with the development of asthma and rhinitis in a prospective cohort. *BMC Dermatol.* 12.
- Von Kobyletzki, L.B., Janson, S., Hasselgren, M., Bornehag, C.-G., & Svensson, Å., 2012b. Evaluation of a Parental Questionnaire to Identify Atopic Dermatitis in Infants and Preschool Children. *J. Allergy* 2012: 1–5.
- Von Mutius, Braun-Fahrlander, Schierl, Riedler, Ehlermann, Maisch, et al., 2000. Exposure to endotoxin or other bacterial components might protect against the development of atopy. *Clin. Exp. Allergy* 30: 1230–1234.
- Wahn, U., & Von Mutius, E., 2001. Childhood risk factors for atopy and the importance of early intervention. *J. Allergy Clin. Immunol.* 107: 567–574.
- Weiland, S.K., Björkstén, B., Brunekreef, B., Cookson, W.O.C., von Mutius, E., Strachan, D.P., et al., 2004. Phase II of the International Study of Asthma and Allergies in Childhood (ISAAC II): Rationale and methods. *Eur. Respir. J.* 24: 406–412.
- Wickens, K., Lane, J.M., Fitzharris, P., Siebers, R., Riley, G., Douwes, J., et al., 2002. Farm residence and exposures and the risk of allergic diseases in New Zealand children. *Allergy Eur. J. Allergy Clin. Immunol.* 57: 1171–1179.
- Widaty, S., Soebono, H., Nilasari, H., Listiawan, Y.M., Siswati, S.A., Triwahyudi, D., et al., 2017. Panduan Praktik Klinis PERDOSKI.
- William, H.C., Jburney, P.G., Hay, R.J., Archer, C.B., Shipley, Y, M.J., Ahunter, J.J., et al., 1994. The U.K. Working Party's Diagnostic Criteria for Atopic Dermatitis. I. Derivation of a minimum set of discriminators for atopic dermatitis. *Br. J. Dermatol.* 131: 383–396.
- Wohl, D.L., Curry, W.J., Mauger, D., Miller, J., & Tyrie, K., 2015. Intrapartum

antibiotics and childhood atopic dermatitis. *J. Am. Board Fam. Med.* 28: 82–89.

Woodcock, A., Addo-Yobo, E.O.D., Taggart, S.C.O., Craven, M., & Custovic, A., 2001. Pet allergen levels in homes in Ghana and the United Kingdom. *J. Allergy Clin. Immunol.* 108: 463–465.

Yoo, Y., 2016. Air pollution and childhood allergic disease. *Allergy Asthma Respir Dis.* 4: 248–256.

Zahradnik, E., & Raulf, M., 2014. Animal allergens and their presence in the environment. *Front. Immunol.* 5: 1–21.

Zirngibl, A., Franke, K., Gehring, U., Von Berg, A., Berdel, D., Peter Bauer, C., et al., 2002. Exposure to pets and atopic dermatitis during the first two years of life. A cohort study. *Pediatr. Allergy Immunol.* 13: 394–401.