PENGARUH DIET RENDAH PROTEIN TERHADAP EKSPRESI mRNA TOLL- LIKE RECEPTOR 4 (TLR4) DAN CLUSTER OF
DIFFERENTIATION 68 (CD68) PADA MENCIT MODEL UNILATERAL URETERAL OBSTRUCTION (UUO)
FADILA DYAH TRIE U, dr. Junaedy Yunus, M.Sc., Ph.D; dr. Ch. Tri Nuryana, M.Kes; Dr. Dra. Sri Herwiyanti, M.S.
Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

American Academy of Family Physicians. M. & Gehr, T. 2011. American family physician. American Family Physician. American Academy of Family Physicians.

Anders, H.-J. Banas, B. & Schlöndorff, D. 2004. Signaling danger: toll-like receptors and their potential roles in kidney disease. *J. Am. Soc. Nephrol.* 15: 854–67.

Arborelius, L. Owens, M. Plotsky, P. & Nemeroff, C. 1999. The role of corticotropin-releasing factor in depression and anxiety disorders. *J. Endocrinol.* 160: 1–12.

Banas, M.C. Banas, B. Hudkins, K.L. Wietecha, T.A. Iyoda, M. Bock, E. 2008. TLR4 Links Podocytes with the Innate Immune System to Mediate Glomerular Injury. *J. Am. Soc. Nephrol.* 19: 704–713.

Benabe, J.E. & Martinez-Maldonado, M. 1998. The impact of malnutrition on kidney function. *Miner. Electrolyte Metab.* 24: 20–6.

Campbell, M.T. Hile, K.L. Zhang, H. Asanuma, H. Vanderbrink, B.A. Rink, R.R.. 2011. Toll-Like Receptor 4: A Novel Signaling Pathway During Renal Fibrogenesis. *J. Surg. Res.* 168: e61–e69.

Chaabane, W. Praddaude, F. Buleon, M. Jaafar, A. Vallet, M. Rischmann, P. 2013. Renal functional decline and glomerulotubular injury are arrested but not restored by release of unilateral ureteral obstruction (UUO). *Am. J. Physiol. Physiol.* 304: F432–F439.

Chandra, R.K. 1991. Nutrition and Immunity in the Elderly. *Nutr. Res. Rev.* 4: 83–95.

Charan, J. & Kantharia, N.D. 2013. How to calculate sample size in animal studies? *J. Pharmacol. Pharmacother.* 4: 303–6.

Chevalier, R.L. Forbes, M.S. & Thornhill, B.A. 2009. Ureteral obstruction as a model of renal interstitial fibrosis and obstructive nephropathy. *Kidney Int.* 75: 1145–1152.

Damoiseaux, J.G. Döpp, E.A. Calame, W. Chao, D. MacPherson, G.G. & Dijkstra, C.D. 1994. Rat macrophage lysosomal membrane antigen recognized by monoclonal antibody ED1. *Immunology* 83: 140–7.

Ece, A. Gözü, A. Bükte, Y. Tutanç, M. & Kocamaz, H. 2007. The effect of malnutrition on kidney size in children. *Pediatr. Nephrol.* 22: 857–863.

UNIVERSITAS GADJAH MADA
PENGARUH DIET RENDAH PROTEIN TERHADAP EKSPRESI mRNA TOLL- LIKE RECEPTOR 4 (TLR4) DAN CLUSTER OF DIFFERENTIATION 68 (CD68) PADA MENCIT MODEL UNILATERAL URETERAL OBSTRUCTION (UUO)
FADILA DYAH TRIE U, dr. Junaedy Yunus, M.Sc., Ph.D; dr. Ch. Tri Nuryana, M.Kes; Dr. Dra. Sri Herwiyanti, M.S.
Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/

Fearn, A. Situmorang, G.R. Fox, C. Oakley, F. Howarth, R. Wilson, C.L. 2017. The NF-κB1 is a key regulator of acute but not chronic renal injury. *Cell Death Dis.* 8: e2883–e2883.

Fock, R.A. Rogero, M.M. Vinolo, M.A.R. Curi, R. Borges, M.C. & Borelli, P. 2010. Effects of Protein-Energy Malnutrition on NF-KappaB Signalling in Murine Peritoneal Macrophages. *Inflammation* 33: 101–109.

Forbes, M.S. Thornhill, B.A. Galarreta, C.I. Minor, J.J. Gordon, K.A. & Chevalier, R.L. 2013. Chronic unilateral ureteral obstruction in the neonatal mouse delays maturation of both kidneys and leads to late formation of atubular glomeruli. *Am. J. Physiol. Renal Physiol.* 305: F1736-46.

Gizi, S. Fungsihatimencit, D.A.N. Tikus, C.D.A.N. Galur, P. Laboratorium, D.I. & Percobaan, H. 2012. Status Gizi Dan Fungsi Hati Mencit (Galur Cbs-Swiss) Dan Tikus Putih (Galur Wistar) Di Laboratorium Hewan Percobaan Puslitbang Biomedis Dan Farmasi. *Media Heal. Res. Dev.* 20: 33–40.

Gluba, A. Banach, M. Hannam, S. Mikhailidis, D.P. Sakowicz, A. & Rysz, J. 2010. The role of Toll-like receptors in renal diseases. *Nat. Rev. Nephrol.* 6: 224–235.

Guiteras, R. Sola, A. Flaquer, M. Hotter, G. Torras, J. Grinyó, J.M. et al. 2017. Macrophage Overexpressing NGAL Ameliorated Kidney Fibrosis in the UUO Mice Model. *Cell. Physiol. Biochem.* 42: 1945–1960.

Guyton, A.C. 2006. Medical Physiology.

Heng, A.-E. & Cano, N.J.M. 2010. A general overview of malnutrition in normal kidney function and in chronic kidney disease. *Clin. Kidney J.* 3: 118–124.

Irena, Z. Irena, R. Rajna, M. Katarina, M. Iva, A. Jasminka, K. 2016. Characterization of Intor: swiss albino mice adopted in the institute of virology, vaccines and sera - Torlak, Belgrade in the early twentieth century. *Acta Vet. Brno.* 66: 279–293.

Isozaki, T. Verlander, J.W. & Sands, J.M. 1993. Low protein diet alters urea transport and cell structure in rat initial inner medullary collecting duct. *J. Clin. Invest.* 92: 2448–2457.

Jercan, O. Penescu, M. & Mălăescu, D.G. 2012. Immunoexpression of alpha-SMA and CD68 in native kidney biopsies. *Rom. J. Morphol. Embryol.* 53: 1037–42.

Kementrian Kesehatan Republik Indonesia, 2019. Kementerian Kesehatan Republik Indonesia [WWW Document]. URL http://www.depkes.go.id/article/view/19013100001/status-gizi-indonesia-alami-perbaikan.html (accessed 9.8.19).

UNIVERSITAS GADJAH MADA
PENGARUH DIET RENDAH PROTEIN TERHADAP EKSPRESI mRNA TOLL- LIKE RECEPTOR 4 (TLR4) DAN CLUSTER OF DIFFERENTIATION 68 (CD68) PADA MENCIT MODEL UNILATERAL URETERAL OBSTRUCTION (UUO)
FADILA DYAH TRIE U, dr. Junaedy Yunus, M.Sc., Ph.D; dr. Ch. Tri Nuryana, M.Kes; Dr. Dra. Sri Herwiyanti, M.S.
Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/

Kementrian Kesehatan Republik Indonesia, 2015. Rencana Strategis Kementrian Kesehatan.

Kidney International Supplements. 2013. Chapter 1: Definition and classification of CKD. *Kidney Int. Suppl.* 3: 19–62.

Lee, R.S. & Sawa, A. 2014. Environmental stressors and epigenetic control of the hypothalamic-pituitary-adrenal axis. *Neuroendocrinology* 100: 278–87.

Lee, Y.Q. Collins, C.E. Gordon, A. Rae, K.M. & Pringle, K.G. 2018.The Relationship between Maternal Nutrition during Pregnancy and Offspring Kidney Structure and Function in Humans: A Systematic Review. *Nutrients* 10.

Malta, A. de Oliveira, J.C. Ribeiro, T.A. da S. Tófolo, L.P. Barella, L.F. Prates, K.V. 2014. Low-protein diet in adult male rats has long-term effects on metabolism. *J. Endocrinol.* 221: 285–295.

Martínez-Klimova, E. Aparicio-Trejo, O.E. Tapia, E. & Pedraza-Chaverri, J. 2019. Unilateral Ureteral Obstruction as a Model to Investigate Fibrosis-Attenuating Treatments. *Biomolecules* 9: 141.

Matsuyama, S. Karim, M.R. Izawa, T. Kuwamura, M. & Yamate, J. 2018. Immunohistochemical analyses of the kinetics and distribution of macrophages in the developing rat kidney. *J. Toxicol. Pathol.* 31: 207–212.

Mescher, A.L. & Junqueira, L.C.U. 2016. Junqueira's basic histology : text and atlas.

Mitruka, B.M. Rawnsley, H.M. & Vadehra, D. V. 1976. Animals for medical research : models for the study of human disease. Wiley.

Moore, K.L. Dalley, A.F. & Agur, A.M.R. 2014. Moore Clinically Oriented Anatomy, Lippincott Williams & Wilkins, a Wolters Kluwer business.

Moresco, E.M.Y. LaVine, D. & Beutler, B. 2011. Toll-like receptors. *Curr. Biol.* 21: R488-93.

Naeim, F. Rao, P.N. & Grody, W.W. 2008. Hematopathology : morphology, immunophenotype, cytogenetics, and molecular approaches. Elsevier/Academic Press.

Nájera, O. González, C. Toledo, G. López, L. Cortés, E. Betancourt, M. 2001. CD45RA and CD45RO isoforms in infected malnourished and infected well-nourished children. *Clin. Exp. Immunol.* 126: 461–5. doi:10.1046/j.1365-2249.2001.01694.x

Nankivell, B.J. 2001. Abnormal Laboratory Results: Creatinine clearance and the

UNIVERSITAS GADJAH MADA
PENGARUH DIET RENDAH PROTEIN TERHADAP EKSPRESI mRNA TOLL- LIKE RECEPTOR 4 (TLR4) DAN CLUSTER OF DIFFERENTIATION 68 (CD68) PADA MENCIT MODEL UNILATERAL URETERAL OBSTRUCTION (UUO)
FADILA DYAH TRIE U, dr. Junaedy Yunus, M.Sc., Ph.D; dr. Ch. Tri Nuryana, M.Kes; Dr. Dra. Sri Herwiyanti, M.S.
Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/

assessment of renal function. *Aust. Prescr.* 24: 15–17.

Nuovo, G.J. 2013. In situ molecular pathology and co-expression analyses. Elsevier.

Nutrition, N.R.C. (US) S. on L.A. 1995. Nutrient Requirements of the Mouse.

Pezeshki, A. Zapata, R.C. Singh, A. Yee, N.J. & Chelikani, P.K. 2016. Low protein diets produce divergent effects on energy balance. *Sci. Rep.* 6: 25145.

Redmond, H.P. Leon, P. Lieberman, M.D. Hofmann, K. Shou, J. Reynolds, J. V. 1991. Impaired Macrophage Function in Severe Protein-Energy Malnutrition. *Arch. Surg.* 126: 192.

Sau, D. 2017. Efek ekstrak etanol pegagan (Centela asiatica) Terhadap Ekspresi Toll-Like Receptor 4 (TLR4), Monocyte Chemoattractant Protein-1 (MCP-1) dan Cluster of Differentiation 68 (cd68) Pada Mencit dengan Unilateral Ureteral Obstruction 1.

Schaible, U.E. & Kaufmann, S.H.E. 2007. Malnutrition and infection: complex mechanisms and global impacts. *PLoS Med.* 4: e115.

Sherwood, L. 2012. From Cells to Systems, The Neuroscientist.

Song, J. Liu, J. Luo, J. Zhang, Q. Xia, Y. Shao, Q. 2019. A modified relief of unilateral ureteral obstruction model. *Ren. Fail.* 41: 497–506.

Sudoyo, Aru W. Bambang Setiyohadi, Idrus Alwi, M. Simadibrata, dan S.S. 2006. Buku Ajar Ilmu Penyakit Dalam. FKUI, Jakarta.

Thomas, M.E. Blaine, C. Dawnay, A. Devonald, M.A.J. Ftouh, S. Laing, C. 2015. The definition of acute kidney injury and its use in practice. *Kidney Int.* 87: 62–73.

Tortora, G.J. & Derrickson, B. 2011. Principles of Anatomy & Physiology Maintenance and Continuity of the Human Body.

Ucero, A.C. Benito-Martin, A. Izquierdo, M.C. Sanchez-Niño, M.D. Sanz, A.B. Ramos, A.M.2014. Unilateral ureteral obstruction: beyond obstruction. *Int. Urol. Nephrol.* 46: 765–776.

Van Biesen, W. Vanholder, R. & Lameire, N. 2006. Defining acute renal failure: RIFLE and beyond. *Clin. J. Am. Soc. Nephrol.* 1: 1314–9.

Vassalotti, J.A. Stevens, L.A. & Levey, A.S. 2007. Testing for Chronic Kidney Disease: A Position Statement From the National Kidney Foundation. *Am. J. Kidney Dis.* 50: 169–180.

UNIVERSITAS
GADJAH MADA
PENGARUH DIET RENDAH PROTEIN TERHADAP EKSPRESI mRNA TOLL- LIKE RECEPTOR 4 (TLR4) DAN CLUSTER OF DIFFERENTIATION 68 (CD68) PADA MENCIT MODEL UNILATERAL URETERAL OBSTRUCTION (UUO)
FADILA DYAH TRIE U, dr. Junaedy Yunus, M.Sc., Ph.D; dr. Ch. Tri Nuryana, M.Kes; Dr. Dra. Sri Herwiyanti, M.S.
Universitas Gadjah Mada, 2020 | Diunduh dari http://etd.repository.ugm.ac.id/

WHO, 2018. Malnutrition [WWW Document]. URL https://www.who.int/en/news-room/fact-sheets/detail/malnutrition (accessed 10.21.19).

WHO, 2013. Global nutrition policy review

Williams, T.M. Little, M.H. & Ricardo, S.D. 2010. Macrophages in Renal Development, Injury, and Repair. *Semin. Nephrol.* 30: 255–267.

Wood-Bradley, R.J. Barrand, S. Giot, A. & Armitage, J.A. 2015. Understanding the role of maternal diet on kidney development; an opportunity to improve cardiovascular and renal health for future generations. *Nutrients* 7: 1881–905.

Yiu, W.H. Lin, M. & Tang, S.C.W. 2014. Toll-like receptor activation: from renal inflammation to fibrosis. *Kidney Int. Suppl.* 4: 20–25.