

Urbanization in Indonesia and its impact on noncommunicable diseases: a clinical, epidemiological, and immunological study

Kurniawan, F.

Citation

Kurniawan, F. (2023, October 19). *Urbanization in Indonesia and its impact on non-communicable diseases: a clinical, epidemiological, and immunological study.* Retrieved from https://hdl.handle.net/1887/3644030

Version:	Publisher's Version
License:	Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden
Downloaded from:	https://hdl.handle.net/1887/3644030

Note: To cite this publication please use the final published version (if applicable).

CURRICULUM VITAE

Farid Kurniawan was born on the 6th of January 1984 in Sidoarjo, East Java, Indonesia, where he also completed his primary and secondary education. In 2001, he moved to Jakarta to start his university education and obtained his medical doctor (MD) degree in 2007 from the Faculty of Medicine, Universitas Indonesia (FKUI). In 2015, he completed his training as an internal medicine specialist at the same university. Afterward, he began working as academic medical staff in the Division of Endocrinology, Metabolism, and Diabetes, Department of Internal Medicine FKUI and Dr. Cipto Mangunkusumo National General Hospital.

In 2016, Farid received a six months Erasmus+ travel grant to join the Half minor program at Leiden University Medical Center (LUMC) in the Netherlands, followed by a research internship in the Department of Parasitology under the supervision of Prof. Maria Yazdanbakhsh, Dr. Erliyani Sartono, and Dr. Dicky L. Tahapary. During this period, he became interested in learning more about the impact of urbanization on metabolic health of Indonesians in relation to varying degrees of exposure to microorganisms and parasites.

After being appointed as one of the internal medicine doctors for the 2017 Indonesian Hajj Health Mission and becoming a civil servant in 2018 under the Ministry of Health Republic of Indonesia, Farid won a highly competitive scholarship from the Indonesian Endowment Funds for Education (Lembaga Pengelola Dana Pendidikan/LPDP) to start his PhD under the supervision of Prof. Maria Yazdanbakhsh, Dr. Erliyani Sartono, and Dr. Dicky L. Tahapary in April 2019. During his PhD, Farid concentrated on two research projects in Indonesia. First, a prospective cohort study in young Indonesian adults to evaluate the impact of urbanization on metabolic health and allergic diseases. Secondly, a longitudinal study incorporating clinical and immunological assessments to better understand the pathogenesis of COVID-19 in obesity and diabetes. He also collaborated with Dr. Renee de Mutsert from the Department of Clinical Epidemiology of LUMC on analyzing a large dataset from the Indonesian national health survey. During his PhD trajectory, he joined a four months clinical observership at the Department of Endocrinology LUMC under the supervision of Prof. Nienke R. Biermasz. After finishing his PhD, Farid will return to FKUI and Dr. Cipto Mangunkusumo National General Hospital to complete his endocrinology subspecialty residency program, combined with clinical work and teaching. He will continue with his research activities in the Cluster of Metabolic Disorders, Cardiovascular, and Aging of the Indonesian Medical Education and Research Institute (IMERI)-FKUI. He intends to focus on the immunological and gut ecosystem aspects of diabetes, obesity, and endocrinology.

LIST OF PUBLICATIONS

In this thesis

Tahapary DL*, de Ruiter K*, **Kurniawan F***, Djuardi Y, Wang Y, Nurdin SME, Wang Y, Iskandar E, Minggu D, Yunir E, Guigas B, Supali T, Rensen PCN, Sartono E, Soewondo P, Harbuwono DS, Smit, JWA, Yazdanbakhsh M. Impact of rural-urban environment on metabolic profile and response to a 5-day high-fat diet. *Scientific Reports*. 2018; 8, 8149.

Kurniawan F*, Tahapary DL*, de Ruiter K, Yunir E, Biermasz NR, Smit JWA, Supali T, Sartono E, Yazdanbakhsh M, Soewondo P. Effect of anthelmintic treatment on serum free IGF-1 and IGFBP-3: a cluster-randomized-controlled trial in Indonesia. *Scientific Reports*. 2020; 10, 19023.

Kurniawan F, Manurung MD, Harbuwono DS, Yunir E, Tsonaka R, Pradnjaparamita T, Vidiawati D, Anggunadi A, Soewondo P, Yazdanbakhsh M, Sartono E, Tahapary DL. Urbanization and Unfavorable Changes in Metabolic Profiles: A Prospective Cohort Study of Indonesian Young Adults. *Nutrients*. 2022, 14.

Kurniawan F, Sigit FS, Trompet S, Yunir E, Tarigan TJE, Harbuwono DS, Soewondo P, Sartono E, Tahapary DL, de Mutsert R. Lifestyle and clinical risk factors in relation with the prevalence of diabetes in the Indonesian urban and rural populations: The 2018 Indonesian National Health Survey. (*manuscript in submission*)

Kurniawan F*, Maria S*, Huisman W, Konig M, Stam KA, Koopman JP, van der Valk I, Pradnjaparamita T, Yunir E, Harbuwono DS, Tarigan THE, Soewondo P, Sartono E, van Ree R, Tahapary DL, Jochems SP, Yazdanbakhsh M. Th2A and CD38+ Th2A Cells in Peripheral Blood and Nasal Mucosa of Individuals with Allergic Rhinitis in Urban and Rural Indonesia.

(manuscript in preparation)

Other publications

Tahapary DL, Fatya AI, Kurniawan F, Marcella C, Rinaldi I, Tarigan TJE, Harbuwono DS,

Yunis E, Soewondo P, Purnamasari D. Increased intestinal-fatty acid binding protein in obesity-associated type 2 diabetes mellitus. *PLoS ONE*. 2023; 18(1): e0279915.

Tahapary DL, Pratisthita LB, Fitri NA, Marcella C, Wafa S, **Kurniawan F**, Rizka A, Tarigan THE, Harbuwono DS, Purnamasari D, Soewondo P. Challenges in the diagnosis of insulin resistance: Focusing on the role of HOMA-IR and Tryglyceride/glucose index. *Diabetes Metab Syndr: Clin Res.* 2022; 16, 102581.

Harbuwono DS, Handayani DOTL, Wahyuningsih ES, Supraptowati N, Ananda A, **Kurniawan F**. Wafa S, Kristanti M, Pantoro NI, Sinto R, Kurniawan H, Rebekka, Tahapary DL. Impact of diabetes mellitus on COVID-19 clinical symptoms and mortality: Jakarta's COVID-19 epidemiological registry. *Primary Care Diabetes*. 2022; 16(1):65-68.

Nugraha GI, Tahapary DL, Hidyat RW, Manikam NR, Syamsunarno MRAA, **Kurniawan F**, Wiradisuria ER, Daulay DY, Harbuwono DS, Soegondo S. The urgency in proposing the optimal obesity cutoff value in Indonesian population: A narrative review. *Medicine.* 2022; 101(49): e32256.

Yunir E, Tarigan TJE, Iswati E, Sarumpaet A, Christabel EV, Widiyanti D, Wisnu W, Purnamasari D, **Kurniawan F**, Rosana M, Anestherita F, Muradi A, Tahapary DL. Characteristics of Diabetic Foot Ulcer Patients Pre- and During COVID-19 Pandemic: Lessons Learnt From a National Referral Hospital in Indonesia. *J Prim Care Community Health.* 2022; 13, 21501319221089767.

Kurniawan F, Deaningtyas P, Tahapary DL, Purnamasari D, Pradnjaparamita T, Harbuwono DS, Sartono E, Yazdanbakhsh M, Soewondo P. Adiposity Profiles and Insulin Resistance in Urban and Rural Indonesian Young Adults and Its Association With Gut Inflammation Marker Lipocalin-2. J *Endocrine Society.* 2021; 5(Supl 1): A3.

Harbuwono DS, Sazli BI, **Kurniawan F**, Darmowidjojo B, Koesnoe S, Tahapary DL. The impact of Ramadan fasting on Fetuin-A level in type 2 diabetes mellitus. *Heliyon*. 2021; 7, e06773.

Yunir E, **Kurniawan F**, Rezaprasga E, Wijaya IP, Suroyo I, Matondang S, Irawan C, Soewondo P. Autologous Bone-Marrow vs. Peripheral Blood Mononuclear Cells Therapy for Peripheral Artery Disease in Diabetic Patients. *Int J Stem Cells*. 2021; 14(1):21-32.

Harbuwono DS, **Kurniawan F**, Sudarsono NC, Tahapary DL. The impact of Ramadan fasting on glucose variability in type 2 diabetes mellitus patients on oral anti diabetic agents. *PLoS ONE*. 2020; 15(6), e0234443.

ACKNOWLEDGEMENTS

I would like to express my appreciation to everyone who has supported me during this PhD journey and making this thesis possible.

I would like to thank the Indonesian Endowment Fund for Education (LPDP) for providing me scholarship to pursue my PhD in the Netherlands.

My greatest gratitude to my inspirational supervisor, Prof. Maria Yazdanbakhsh, for your continuous guidance, support, and encouragement, which allowed me to grow as a researcher and also a clinician. You set an example for conducting research with the highest standard and I have learned so much from you. My sincerest appreciation to my co-supervisor, Dr. Erliyani Sartono, for all the advice and support. Thank you for always making time for discussion whenever I needed it. My sincere gratitude also goes to Dr. Dicky Tahapary, for being the person I could always rely on to discuss matters and for providing me with excellent ideas. My special thank goes to Dr. Simon P. Jochems for introducing nasal scraping, helping me with mass cytometry data analyses, and always providing invaluable input.

My sincere appreciation to Prof. Pradana Soewondo and Prof. Taniawati Supali for their continuous support and motivation. Thank you for facilitating me to receive the Erasmus+ grant seven years ago when my adventure in the Netherlands started.

My gratitude to Prof. Nienke Biermasz for helping me with parts of my PhD project and for giving me the opportunity for a clinical observership in her department. My appreciation to Dr. Renee de Mutsert for collaborating on the RISKESDAS data and supervising me on epidemiological data analysis. I would also like to thank people who have played essential role in enriching my academic journey: Dr. Bruno Guigas, Dr. Roula Tsonaka, and Dr. Stella Trompet.

Many thanks to Mikhael/Dito for your support in the statistical analyses and all the advice related with R programming. Special thanks to Wesley for stepping up on the immunological data analyses and sharing your knowledge with me. My appreciation

also goes to Koen for helping me with the statistical analysis for allergy project. Marion, thank you very much for your help with the mass cytometry measurement during the challenging time of COVID-19 pandemic. Thank you Suzy Maria and Angelica for your collaboration and supervision during the urbanization cohort project. Many thanks to Fathimah for working together and providing me with invaluable input for the RISKESDAS project. Thank you Yvonne Kruize for always being helpful with the consumables whenever I needed them.

To my office mates in T5 (Terrarium): Rike, Joost, Oscar, Emma, Roos, Dennis, Eunice, Mathilde, and Ibrahima, thank you for your support throughout these years. I really enjoyed the time we spent together to share ideas and experiences. I'm also grateful to all my colleagues at the Department of Parasitology LUMC: Dian, Jan Pieter, Marloes, Miriam, Yoanne, Eline, Luis, Danny, Thiago, Graham, Marjolein, Abena, Shohreh, Arifa, Alicia, Iris, Sanne, Maaike, Wouter, Mariateresa, Pytsje, Laudine, Marouba, Bryce, Jeremiah, Josianne, Nikolas, Leonard, Anna, and Ana Kildemois for all the support, ideas, friendship, and making my stay at the department truly enjoyable. Thank you Jantien, Gerdien, Ryanne, and Laurien for all the administrative support.

I want to express my gratitude to the Dean of FKUI, Prof. Ari Fahrial Syam; the Director of Dr. Cipto Mangunkusumo Hospital, Dr. Lies Dina Liastuti; and the Head of Department of Internal Medicine, Prof. Dadang Makmun for their support and motivation.

I am also thankful to the previous Head of Division of Endocrinology, Metabolism and Diabetes, Dr. Em Yunir and Prof. Dante Saksono, and the current Head of Division, Dr. Tri Juli for their unwavering support and advice throughout my PhD. My sincere thanks to Prof. Slamet Suyono, Prof. Sidartawan Soegondo, Prof. Asman Boedisantoso, Prof. Sarwono Waspadji, Prof. Imam Subekti, Prof. Dyah Purnamasari, Dr. Soeharko Subardi, Dr. Budiman, Dr. Wismandari Wisnu, and Dr. Ardy Wildan for all their support. Many thanks to Dr. Syahidatul Wafa and Dr. Martha Rosana who have been very helpful during the COVID-19 and diabetes study. Thank you Mbak Ola, Mbak Ifa, Mbak Dila, Mbak Nida, Bu Nana, Mas Risman, and late Pak Deden for all the administrative and technical support. Thank you to Dr. Dhanasari, the Head of Universitas Indonesia Satellite Clinic for allowing me to conduct one of my studies in her clinic, and Bu Nana for the technical support. I am also thankful to all staff members of the Metabolic Disorder, Cardiovascular, and Aging Cluster, IMERI-FKUI: Tika, Maya, Lucia, Isma, Anisa, Rohman, and Budi for all their support.

My sincere thanks to all research assistants for all their support and hard work. My appreciation also to all study participants, without whom this thesis would not have been possible.

My special gratitude goes to Prof. Kahar Tjandra and Ibu Evy Tjandra for being inspirational figures and providing support and kind attention to me and my family.

Words cannot express my gratitude to my parents: my late father, M. Urifan Hasan, and my mother, Rachmi Asfiah, for their unconditional love and continuous support. I am forever indebted to my parents who have made me the person I am today. My sincere gratitude to my parents-in-law, Wardiyatmo and Westri Rahutami for their continuous support. I would also like to thank my brothers, Rifky and Fajar; as well as my brothersand sisters-in-law, Mas Novan, Mbak Putranti, Mayhendro, Lina, Sofie, and Retno, for their help and support.

Finally, and most importantly, to my beloved wife, Putri Utamingrum, my deepest appreciation for your kindness and companionship during all these years we have been together. Thank you for joining me in the Netherlands, leaving your comfort zone, and making my everyday life in the Netherlands more colorful. For my beloved children, Keenan and Kanesha, I am very grateful for your presence in my life. Thank you for being my inspiration and motivation. Your smiles and enthusiasm have made my stay in the Netherlands even more enjoyable.