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## **Prenatal vitamin D3 supplementation: pharmacology and offspring health outcomes**

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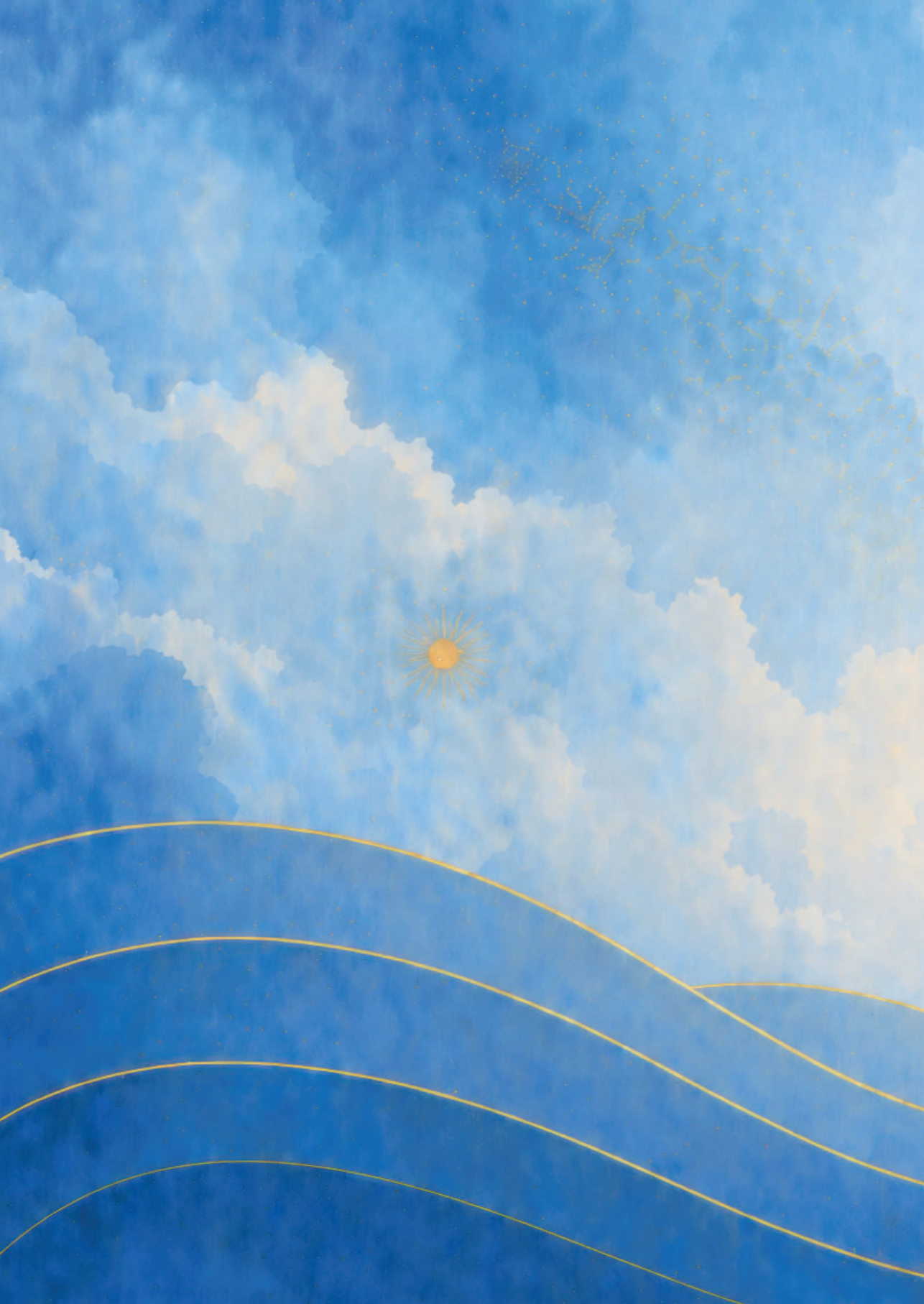
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# Appendix

**Curriculum vitae**  
**List of publications**  
**Acknowledgements**

## Curriculum vitae

Iskander Shadid was born in The Hague on July 18<sup>th</sup> 1997. He attended the secondary school Christelijk Gymnasium Sorghvliet, where an early interest in science and human health began to take shape. In 2015, he went on to study Bio-Pharmaceutical Sciences at Leiden University, completing his bachelor's degree with a minor in Business Studies, before broadening his horizons with a year as treasurer on the board of the Veerstichting. He continued combining science with business during his master's Bio-Pharmaceutical Sciences & Business Studies. During this period, he developed a strong foundation in pharmacology, quantitative analysis, and translational thinking required for drug development.

His research trajectory deepened during a graduate research project at the Leiden Academic Centre for Human Drug Research, where he worked on pharmacometric modelling in neonates, applying non-linear mixed-effects models to better understand early-life drug metabolism. This quantitative and systems-level approach in a perinatal setting became a consistent theme in his academic work. He also gained experiences in business development at biotech start-up CellPoint.

He then expanded his research internationally as a Research Fellow at Brigham and Women's Hospital and visiting graduate student at Harvard Medical School. There, he focused on vitamin D pharmacokinetics, integrating high-dimensional clinical datasets with molecular analyses to study maternal and early-life health outcomes, including asthma, preeclampsia, and the microbiome. He continued his research in Boston as PhD candidate of the Leiden University Medical Center under the supervision of prof. dr. H.J. Guchelaar, prof. dr. Scott Weiss and asst. prof. dr. Hooman Mirzakhani. His work spanned computational modelling, network biology, and preclinical research, contributing to multiple peer-reviewed publications.

Alongside his academic work, he has developed a strong interest in translating scientific discoveries from bench to bedside. In his role as a Junior Associate at Gilde Healthcare, he is involved in venture investing and continues to support biotech companies in advancing innovative therapies toward clinical and commercial realization.

## List of publications

### In this thesis

Shadid, I.L., Guchelaar, H.J., Weiss, S.T. and Mirzakhani, H., 2024. Vitamin D beyond the blood: Tissue distribution of vitamin D metabolites after supplementation. *Life sciences*, 355, p.122942.

Shadid, I.L., Guchelaar, H.J., Levy, B.D., Weiss, S.T. and Mirzakhani, H., 2026. High-dose Vitamin D Supplementation Alters Tissue-specific Vitamin D Metabolite Distribution in Mice during Pregnancy. *The Journal of Nutrition*, p.101345.

Shadid, I.L., Brustad, N., Chawes, B.L., Moes, D.J.A., Weiss, S.T., Guchelaar, H.J. and Mirzakhani, H., 2025. Pharmacokinetic modeling of prenatal vitamin D exposure and the impact on offspring asthma and pulmonary function. *Biomedicine & Pharmacotherapy*, 183, p.117859.

Shadid, I.L., Brustad, N., Lu, M., Chawes, B.L., Bisgaard, H., Zeiger, R.S., O'Connor, G.T., Bacharier, L.B., Guchelaar, H.J., Litonjua, A.A. and Weiss, S.T., 2023. The impact of baseline 25-hydroxyvitamin D level and gestational age on prenatal vitamin D supplementation to prevent offspring asthma or recurrent wheezing. *The American Journal of Clinical Nutrition*, 117(6), pp.1342-1352.

Shah, J., Shadid, I.L., Carey, V.J., Laranjo, N., O'Connor, G.T., Zeiger, R.S., Bacharier, L., Litonjua, A.A., Weiss, S.T. and Mirzakhani, H., 2023. Early-life weight status and risk of childhood asthma or recurrent wheeze in preterm and term offspring. *The Journal of Allergy and Clinical Immunology: In Practice*, 11(7), pp.2125-2132.

Lu, Z., Shadid, I.L., Shah, J., Carey, V.J., Laranjo, N., O'Connor, G.T., Zeiger, R.S., Bacharier, L., Litonjua, A.A., Weiss, S.T. and Mirzakhani, H., 2025. Impact of maternal body mass index (BMI) and gestational weight gain on offspring's weight and BMI z-scores across the first 8 years of life. *Clinical Obesity*, 15(5), p.e70021.

Knihtilä, H.M., Kachroo, P., Shadid, I., Raissadati, A., Peng, C., McElrath, T.F., Litonjua, A.A., Demeo, D.L., Loscalzo, J., Weiss, S.T. and Mirzakhani, H., 2023. Cord blood DNA methylation signatures associated with preeclampsia are enriched for cardiovascular pathways: insights from the VDAART trial. *EBioMedicine*, 98.

Shadid, I.L., Lee-Sarwar, K., Lu, Z., Yadama, A., Laranjo, N., Carey, V., O'Connor, G.T., Zeiger, R.S., Bacharier, L., Guchelaar, H.J. and Liu, Y.Y., 2023. Early life gut microbiome in children following spontaneous preterm birth and maternal preeclampsia. *Iscience*, 26(12).

Jha, A., Baumann, N., Shadid, I., Shah, J., Chen, Y.C.S., Lee-Sarwar, K.A., Zeiger, R.S., O'Connor, G.T., Bacharier, L.B., Carey, V.J. and Laranjo, N., 2023. The relationship of fetal sex and maternal race and ethnicity with early and late pregnancy C-reactive protein and interleukin-8. *American Journal of Reproductive Immunology*, 90(2), p.e13746.

**Not in this thesis**

Hirani, S., Vu, P., Halac, M., Bohacek, S., Benkli, B., Jevotovsky, D., Vega, J., Hirani, A., Orhurhu, V., Odonkor, C., Ehrenfeld, J., and Shadid, I. 2025. Transforming pain medicine: the power of collaboration, entrepreneurship, and innovation. *Pain Medicine*, 26(5), pp.231-236.

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